

SCIENCE & MEDICINE DEPTL

SESSION 1943
HOUSE OF COMMONS

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SPECIAL COMMITTEE ON SOCIAL SECURITY



HEALTH INSURANCE

REPORT OF THE ADVISORY COMMITTEE ON
HEALTH INSURANCE APPOINTED BY ORDER
IN COUNCIL P.C. 836 DATED FEBRUARY 5, 1942.

PRICE: \$1.50

PRESENTED ON MARCH 16, 1943, BY
THE HON. IAN MACKENZIE,
MINISTER OF PENSIONS AND NATIONAL HEALTH.

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March 1, 1943.

*The Honourable Ian A. Mackenzie, P.C., M.A., LL.B., K.C., M.P.,
Minister of Pensions and National Health.*

SIR:

I have the honour to transmit herewith the Report of the Advisory Committee on Health Insurance appointed by Order in Council of February 5th, 1942 (P.C. 836).

I have the honour to be,

Sir,

Your obedient servant,

J. J. HEAGERTY,

Chairman.

ADVISORY COMMITTEE ON HEALTH INSURANCE

Chairman

J. J. HEAGERTY

Director of Public Health Services

Department of Pensions and National Health

A. D. WATSON

Chief Actuary

Department of Insurance

M. E. K. ROUGHSEdge

Employment Statistics

Bureau of Statistics

S. A. CUDMORE

Dominion Statistician

Bureau of Statistics

J. R. MUNRO

Chief, Financial Statistics

Bureau of Statistics

J. T. MARSHALL

Chief, Vital Statistics

Bureau of Statistics

L. C. MARSH

Research Adviser

Committee on Reconstruction

J. C. BRADY

Chief, Institutional Statistics

Bureau of Statistics

W. G. GUNN

Departmental Solicitor

Department of Pensions and National

Health

S. B. SMITH

Chief, Business Statistics

Bureau of Statistics

C. E. STEVENS

Employees' Compensation Branch

Department of Transport



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P.C. 836

AT THE GOVERNMENT HOUSE AT OTTAWA

THURSDAY, the 5th day of FEBRUARY, 1942.

PRESENT:

THE DEPUTY OF HIS EXCELLENCY

THE GOVERNOR GENERAL IN COUNCIL:

WHEREAS subsections (a), (h), and (i) of section 9 of the Department of Pensions and National Health Act provide as follows:

"The duties and powers of the Minister under this Part shall extend to and include all matters and questions relating to the promotion or preservation of the health of the people of Canada over which the Parliament of Canada has jurisdiction, and, without restricting the generality of the foregoing, particularly the following matters and subjects:—

- (a) Co-operation with the provincial, territorial, and other health authorities with a view to the co-ordination of the efforts proposed or made for preserving and improving the public health, the conservation of child life and the promotion of child welfare;
- (h) Subject to the provisions of the Statistics Act, the collection, publication and distribution of information relating to the public health, improved sanitation and the social and industrial conditions affecting the health and lives of the people;
- (i) Such other matters relating to health as may be referred to the Department by the Governor in Council;"

AND WHEREAS the subject of health insurance has been discussed on numerous occasions in the House of Commons and therein urged for adoption;

AND WHEREAS on the 21st March, 1928 a motion was adopted by the House of Commons "that, in the opinion of this House, the Select Standing Committee on Industrial and International Relations be authorized to investigate and report on insurance against unemployment, sickness and invalidity.";

AND WHEREAS the Committee appointed under said authority in a report presented to the House of Commons on the 1st June, 1928 stated, with regard to relative legislative jurisdiction, as follows:

"That the evidence of the Justice Department makes it clear that the responsibility for such legislation rests on the provincial authorities, it being within their jurisdiction under the provisions of the British North America Act; but that it would be within the power of Parliament to contribute by grant to such provinces as adopted such legislation, following the precedents set in the matter of technical education, highway-construction, and, more recently, the Old Age Pension Act."

VIII

AND WHEREAS on the 1st May, 1929, the said Committee on Industrial and International Relations in their second report made the following recommendations:

- "(a) That with regard to sickness insurance, the Department of Pensions and National Health be requested to initiate a comprehensive survey of the field of public health, with special reference to a national health programme. In this, it is believed that it would be possible to secure the co-operation of the provincial and municipal health departments, as well as the organized medical profession.
- (b) That in the forthcoming census, provision should be made for the securing of the fullest possible data regarding the extent of unemployment and sickness, and that this should be compiled and published at as early a date as possible."

AND WHEREAS the Dominion Council of Health at its sessions held on the 28th, 29th and 31st May, 1932, passed a resolution urging the implementing of the recommendation contained in clause (a) referred to in the immediately preceding paragraph hereof.

NOW, THEREFORE, The Deputy of His Excellency the Governor General in Council, on the recommendation of the Minister of Pensions and National Health, and under the authority of The Department of Pensions and National Health Act, and notwithstanding anything contained in any other Act or regulations, is pleased to order and doth hereby order and direct,—

- (1) That the Health Branch of the Department of Pensions and National Health under the direction of the Director of Public Health Services shall continue the study of health insurance with a view to formulating a health insurance plan;
- (2) That for the better carrying out of said purpose, there shall be a special committee to be known as The Advisory Committee on Health Insurance consisting of not less than ten and not more than eleven members who shall serve as members of said Committee without remuneration;
- (3) That the Director of Public Health Services shall be a member of said Committee and be the permanent chairman thereof;
- (4) That the said Committee shall consist, at present, in addition to the said Director of Public Health Services, of the following persons:

Dr. L. C. Marsh, Research Adviser, Department of Pensions and National Health;

Mr. A. D. Watson, Chief Actuary, Department of Insurance;

Mr. J. C. Brady, Chief, Institutional Statistics, Bureau of Statistics;

Mr. S. B. Smith, Chief, Business Statistics, Bureau of Statistics;

Miss M. E. K. Roughsedge, Employment Statistics, Bureau of Statistics;

Mr. J. R. Munro, Chief, Financial Statistics, Bureau of Statistics;

Mr. J. T. Marshall, Chief, Vital Statistics, Bureau of Statistics;

Mr. W. G. Gunn, Departmental Solicitor, Department of Pensions and National Health;

Mr. C. E. Stevens, Employees' Compensation Branch, Department of Transport.

- (5) That the duties of said Committee shall be to study all factual data relating to health insurance and to advise and report thereon to the Minister of Pensions and National Health;

- (6) That Dr. Robert D. Defries, scientific adviser on public health to the Dominion Council of Health, shall be honorary adviser to said Committee, and be entitled to receive his actual and necessary out-of-pocket expenses while absent from his place of residence for the purpose of attending on said Committee;
- (7) That the Department of Pensions and National Health may, subject to the approval of the Treasury Board, if and when required, employ the full time services of a Research Assistant and an Economist as well as other appropriate personnel;
- (8) That all expenditures incurred for the purposes aforesaid be chargeable against funds provided under the War Appropriation Act.

(Sgd.) A. D. P. HEENEY,

Clerk of the Privy Council.

P.C. 1759

AT THE GOVERNMENT HOUSE AT OTTAWA

MONDAY, the 9th day of MARCH, 1942.

PRESENT:

HIS EXCELLENCY

THE GOVERNOR GENERAL IN COUNCIL:

WHEREAS there was constituted by Order in Council of the 5th February, 1942 (P.C. 836), a Committee to be known as the Advisory Committee on Health Insurance consisting of not less than ten and not more than eleven members who shall serve as members of the Committee without remuneration; the duties of the said Committee to be to study all factual data relating to Health Insurance and to advise and report thereon to the Minister of Pensions and National Health;

AND WHEREAS by the said Order in Council, ten persons were appointed to be members of the said Advisory Committee;

AND WHEREAS the Minister of Pensions and National Health reports that it is now deemed desirable that Mr. S. A. Cudmore, Acting Dominion Statistician, be appointed as a member of the said Committee.

THEREFORE His Excellency the Governor General in Council, on the recommendation of the Minister of Pensions and National Health, is pleased to appoint and doth hereby appoint Mr. S. A. Cudmore, Acting Dominion Statistician, to be a member of the Advisory Committee on Health Insurance which was constituted by Order in Council of the 5th February, 1942 (P.C. 836), Mr. Cudmore to serve as a member of the said Committee without remuneration.

(Sgd.) A. D. P. HEENEY,

Clerk of the Privy Council.

AT THE GOVERNMENT HOUSE AT OTTAWA

FRIDAY, the 26th day of JUNE, 1942.

PRESENT:

HIS EXCELLENCY**THE GOVERNOR GENERAL IN COUNCIL:**

WHEREAS by Order in Council of the 5th February, 1942 (P.C. 836), The Advisory Committee on Health Insurance was established under the chairmanship of the Director of Public Health Services;

AND WHEREAS by the said Order in Council, Dr. Robert D. Defries, scientific adviser on public health to the Dominion Council of Health, was appointed to be honorary adviser to The Advisory Committee on Health Insurance;

AND WHEREAS the Minister of Pensions and National Health reports that a committee of the Canadian Public Health Association has been formed; that this committee will act as adviser to The Advisory Committee on Health Insurance, and that the said Dr. R. D. Defries has now requested that he be permitted to relinquish the appointment of honorary adviser to The Advisory Committee on Health Insurance;

NOW, THEREFORE, His Excellency the Governor General in Council, on the recommendation of the Minister of Pensions and National Health, is pleased to amend Order in Council of the 5th February, 1942 (P.C. 836), as amended by Order in Council of the 9th March, 1942 (P.C. 1759), and it is hereby further amended by deleting paragraph (6) thereof, which reads as follows:

- (6) That Dr. Robert D. Defries, scientific adviser on public health to the Dominion Council of Health, shall be honorary adviser to said Committee, and be entitled to receive his actual and necessary out-of-pocket expenses while absent from his place of residence for the purpose of attending on said Committee.

(Sgd.) A. D. P. HEENEY,

Clerk of the Privy Council.

Foreword

THE Advisory Committee on Health Insurance was created on February 5th, 1942, by Order in Council P.C. 836. Certain changes were made in the membership of the Committee by Order in Council of the 9th March, 1942 (P.C. 1759), and by Order in Council of the 26th June, 1942 (P.C. 5444).

Since February, 1942, the Committee has carried on an intensive study of public health and medical care, the result of which has been the formulation of a Draft Bill of Health Insurance. This Draft Bill, the fourth to be drawn up, is based on studies of health insurance plans of other countries and particularly on health problems relating to Canada. The latter are illustrated by vital statistics contained in Part IV of this Report.

In carrying out its studies, the Committee obtained the views of various national groups through committees appointed for the purpose. The following organizations formed health insurance committees:

Canadian Medical Association
Canadian Nurses Association
Canadian Hospital Council
Canadian Dental Association
Canadian Pharmaceutical Association
Canadian Public Health Association
Health Committee of Canadian Life Insurance Officers
Association
Trades and Labour Congress of Canada
Canadian Manufacturers Association
Canadian Federation of Agriculture
Catholic Hospital Association
Catholic Women's League
National Council of Women
Federated Women's Institutes of Canada
La Federation des Femmes canadiennes francaises
Canadian Welfare Council and Association of Social Workers

Of the above all but two made submissions indicating their views. The majority favoured a provincial plan of health insurance aided by Dominion grants.

Although the Advisory Committee on Health Insurance was formed only in February, 1942, the subject of health insurance has been studied for a number of years by the Department of Pensions and National Health. Since 1920 the Department has kept in touch with developments in other countries. By instruction of the Honourable Ian A. Mackenzie, Minister of Pensions and National Health, a meeting of the Dominion Council of Health was held on June 13th and 14th, 1941, to discuss the subject of the health of the people of Canada with the object of initiating a comprehensive study of public health and medical services leading to the adoption of a public health and health insurance plan for the Dominion. To this meeting were invited representatives of the Canadian Medical Association, Canadian Hospital Council, the medical faculties of universities, the Royal College of Physicians and Surgeons, and voluntary health organizations comprising the National Committee for Mental Hygiene (Canada), the Canadian Tuberculosis Association and the Health League of Canada, as well as representatives of other departments of the Government. The Dominion Council of Health comprises the Deputy Minister of Pensions and National Health, as Chairman, the Chief Medical Officer of each of the provinces, a representative respectively of labour, agriculture, and women's urban and rural organizations, and one scientific adviser.

The Director of Public Health Services presented the subject of public health and medical care for discussion.

On the subject of public health, deficiencies were stressed and particularly in respect of the prevention and control of tuberculosis, venereal diseases, mental diseases, maternal mortality, infant mortality, and the diseases of middle age, such as cancer, heart disease, arterial disease, diabetes, diseases of the kidneys. The discussion brought out the following facts:

Tuberculosis

Although there has been a gratifying reduction in morbidity and mortality generally, the situation in regard to mortality from tuberculosis is unsatisfactory. While there has been a gradual reduction in mortality during the past ten years, the rate of reduction is more rapid in some provinces than in others and particularly in those provinces in which adequate preventive and treatment services are provided. This inequality in the rate of reduction of mortality as between provinces is due to lack of sufficient funds in some provinces to conduct a full programme of tuberculosis prevention and treatment.

A striking feature of tuberculosis is the excessively high mortality rate in Quebec and the Maritime provinces. Quebec has the highest rate of any of the provinces, being closely followed by New Brunswick, Nova Scotia and British Columbia. The high incidence of tuberculosis among Indians is an important contributing factor to the high mortality rate of British Columbia. The high rate in the Province of Quebec would appear to be due to the fact that insufficient money is being spent on prevention and treatment. Latterly, Quebec has taken cognizance of the high rate of incidence of tuberculosis and is increasing facilities both for prevention and treatment. On the other hand, although New Brunswick and Nova Scotia compare favourably with other provinces in respect of the total per capita expenditure for prevention and treatment, incidence and mortality are excessive. This is due to the fact that facilities for case finding and the number of hospital beds are inadequate. The prevalence of low incomes in Nova Scotia, New Brunswick and Quebec is undoubtedly a factor in the incidence of this disease. Usually, where the incidence and mortality of tuberculosis are highest the income is lowest.

It is believed that if free treatment were provided in all of the provinces of Canada and if preventive services were adequate, tuberculosis would become a vanishing disease in a generation. A full programme of tuberculosis control including prevention and free treatment, although necessitating higher outlays, will eventually effect definite savings both of a monetary and social nature.

There are two provinces—Alberta and Saskatchewan—which provide free treatment for all of their people. In Ontario the treatment is practically free. In controlling tuberculosis the important factors are the number of beds available and free treatment supported by an adequate background of public health organization. Saskatchewan and Ontario are the only provinces that meet ordinary accepted standards at the present time. In British Columbia a reorganization of tuberculosis control has taken place during the past few years with excellent results.

The control of tuberculosis among Indians is an important aspect of the problem. The death rate from tuberculosis among Indians is twelve times greater than among the white population, and the provinces, therefore, look upon the Indian Reserves as wells of infection. The problem of the control of tuberculosis among the Indians is of special importance to the four western provinces and Ontario where most of the Indian population is concentrated. In any steps taken for the improvement of the situation regarding tuberculosis, the Indians should be made participants.

Twenty-five years ago there were less than 2,000 sanatorium beds in Canada whereas at the present time there are approximately 11,000. The only provinces which have a sufficient number of beds are Ontario and Saskatchewan. There are no waiting lists at the sanatoria and the death rates in these provinces are the lowest in Canada. It is considered that 2,000 more beds are needed in Quebec and in the Maritimes and, in addition, 600 beds for the Indian population.

The question of cost of treatment is an important one. The minimum cost of sanatorium treatment is \$1,000 a year. It is found that less than 9 per cent of all tuberculosis patients are able to pay for treatment either in whole or in part and it is considered that the number of those who are able to pay for treatment is so small it scarcely pays to maintain a staff to collect payment.

It is clear that, in so far as the control of tuberculosis is concerned, the solution lies in the provision of full and complete preventive services together with free treatment for all of the people of Canada.

Venereal Diseases

In 1919 the Dominion Government in cooperation with the provinces inaugurated a venereal disease campaign. The Dominion contributed the sum of \$200,000.00 and continued to do so in reducing amounts until the grant was discontinued in 1932. Since that time the number of cases being treated has practically remained stationary. Statistics regarding venereal diseases are incomplete inasmuch as doctors generally do not report their cases but the statistical report of the free venereal disease clinics for the year 1940 shows that there were 6,446 new cases of syphilis, 11,072 of gonorrhoea and 195 of chancroid treated in clinics that year—a total of 17,713 cases. The total number of treatments given in 1940 was approximately 326,000 and the total laboratory examinations was 288,473.

As syphilis has such tragic results as general paralysis of the insane, locomotor ataxia, death from syphilis of the heart and arteries, it is one of our most menacing diseases. The only way in which venereal diseases can be adequately controlled is by a complete venereal disease programme, including the education of the public, the early detection of cases and free treatment. Such a programme would, over a period of years, effect a saving in institutional and hospital cases, in mothers' allowances, old age pensions, and poor relief.

Other countries which have adopted compulsory programmes for the control of venereal diseases have had great success, such, for example, as Sweden where for every 100,000 of population there are only 7 new cases of syphilis annually, and Denmark where they are only 20 new cases; whereas, in Canada, there are 70 new cases per 100,000 of population according to the reports of the clinics. This figure would be higher were doctors to fully report their cases. In the field of control of venereal diseases Canada is backward. The chief needs of the moment are:—

- (1) Widespread education regarding the nature of the venereal diseases.
- (2) Additional clinics with increased personnel.
- (3) Adequate remuneration for the personnel of the clinics where a large number of physicians give their services gratuitously.
- (4) The extension of hours of treatment in clinics to enable people to obtain treatment during hours off duty.
- (5) The provision of treatment by physicians in sparsely settled areas of the country.
- (6) Greater attention to reporting and follow-up of venereal disease cases.

Only when the above conditions have been met will Canada have an adequate programme for the control of these diseases. Such a programme requires additional funds.

Mental Diseases

The situation in regard to mental diseases in Canada is grave. The number of cases of mental diseases is increasing. More beds are required for the treatment of mental illness than the total number of beds required for hospitalization of all other diseases. The peak of hospitalization of the mentally ill was reached in 1941 when there were 59,203 hospitalized or on parole but still under the care of mental institutions. These figures include mental defectives, epileptics, neurotics, drug addicts and alcoholics. There are many mentally ill persons for whom no accommodation is available in mental institutions; whereas, there are numbers of young mentally ill persons in these institutions who could be out in the world earning a living provided the work was of a routine character and devoid of worry, anxiety and the need for competition.

Apart from the question of accommodation, there is a lack of professional staff. Moreover, a considerable amount of the time of doctors in these institutions is devoted to administration, so much so that it is difficult for them to give individual supervision or care to the patients. Nurses are insufficient in number and inadequately trained; facilities for occupational therapy and recreation are inadequate.

The prevention of much mental illness is possible through the establishment of psychiatric clinics for the early detection and treatment of mental conditions.

In a study prepared for the Royal Commission on Dominion-Provincial Relations are found the following recommendations to cope with the problem of mental illness in Canada:—

“The first step in a campaign to prevent mental and nervous disorder is to ascertain the size and scope of the problem. This step still remains to be taken in Canada. The second step is to make a frank comparison of existing facilities for handling the problem with accepted standards. In making such a comparison two aspects should be kept in mind—treatment and prevention. On the side of treatment the minimum needs in Canada are:

- (1) more institutional accommodation for major psychoses, epilepsy and mental defectives.
- (2) more and better trained personnel. There are some two hundred psychiatrists in all Canada, which is not enough for the proper treatment of major psychoses alone.
- (3) earlier diagnosis. The mental hospitals get about 50 per cent of their cases too late for remedial treatment. This is partly a reflection of the fact that medical education until recently paid little attention to this side of the doctor's training. Training in mental hygiene is also needed for nurses and social workers.
- (4) semi-sheltered employment. One of the tragedies of mental institutions is that many patients could leave if industrial work-shops and other types of semi-sheltered employment were available.

“On the side of prevention, the following needs are pressing:

- (1) a thoroughgoing educational programme. Ideally, such a programme should take into account the individual needs of people; therefore, it could probably be best conducted through item 2.

- (2) a system of clinics throughout the country for diagnosis and advice. Such a system should keep many people out of institutions and hospitals and by early diagnosis should cut down the length of institutionalization of others. Accordingly these clinics should pay for themselves from the outset. From these clinics there would also radiate an educational programme which would make known to people the principles of conserving mental health.
- (3) the integration of the mental hygiene programme with the educational and welfare programme. There are potentialities for prevention in having at least some personnel trained in the principles of mental hygiene, in pre-natal clinics, nursery schools and the school system. These same potentialities exist in dealing with unemployables, relief recipients and all forms of public assistance, where mental rehabilitation is a common need. All the provinces and at any rate the larger cities need public health nurses, social workers and other welfare personnel who are trained in mental hygiene.
- (4) a programme of vocational guidance and training for mental defectives, along with the early diagnosis made possible by the clinics. Experience shows that the great majority of feeble-minded can be made partly self-supporting and steered away from the delinquency and mis-conduct to which they are prone. Special classes in Canada should conservatively be doubled. In this respect, Ontario has made the greatest advances of the provinces, although even there the needs are not met.
- (5) organized community care for certain kinds of mental defectives. In Great Britain upwards of 18,000 mental defectives are supervised under a plan to which the central government contributes fifty per cent of the fund. From a straight cost point of view it has been found cheaper to supervise these people than not to supervise them."

Provincial funds are inadequate to meet all of these requirements and might with great advantage be supplemented by funds from other sources.

Maternal Mortality

The maternal death rate in Canada is high and, when compared with other countries with a similar standard of living, may be considered excessively so. Wherever special measures have been adopted in Canada to provide adequate maternal services, pre-natal, intranatal and postnatal, the maternal mortality rate is only half that of Canada as a whole. It is considered that by the adoption of adequate maternal services the death rate could be more than cut in half. More than 900 mothers die each year in childbirth and it is known that the death of the mother is very likely to be followed by that of the child. It has been estimated that three or four times more babies die in the group of motherless children than where mothers survive childbirth.

The main causes of maternal mortality are puerperal sepsis, puerperal toxæmias and puerperal hemorrhage. These conditions are controllable in great measure through the provision of adequate prenatal and intranatal care. That such care is not provided is indicated by the fact that not all provinces have a Maternal and Child Hygiene Division under the immediate direction of a physician, a *sine qua non* for the reduction of maternal mortality. Investigation reveals the fact that there is lack of cooperation among the agencies concerned with maternal, infant and child mortality. There is inadequacy of medical, hospital and clinical facilities. It is considered essential that a nation-wide survey be made of the maternal situation.

Infant Mortality

Canada has lost, on an average, 15,000 children under one year of age each year during the last ten years. These deaths are due to causes which are preventable or controllable. One of the chief factors in the reduction of infant mortality is the provision of local public health nursing services and the creation of specialized services. For example, 4,000 of the infant deaths each year are due to prematurity. Many of these children could be saved through the provision of incubators for the transportation of premature infants from the home to the hospital. Blood transfusion services for the mother suffering from hemorrhage would be life-saving and react favourably on the life of the child. Co-ordination of all agencies by the Department of Pensions and National Health with funds made available for that purpose would have a very material effect in the reduction of maternal and child mortality.

Control of Communicable Diseases

Noteworthy advances have been made in the control of communicable diseases and particularly those of childhood, during recent years, but there remains much to be done in this field. The mortality from diphtheria, in view of the fact that this disease is wholly preventable, should not be tolerated. In cities and districts where preventive services have been provided and an energetic toxoid campaign carried out, diphtheria has practically vanished. Were all the children in Canada inoculated against diphtheria, or were half the children in Canada inoculated against diphtheria, the disease would cease to exist in a short while. The extension of toxoiding services to rural areas is imperative. Generally, the health of the people in rural areas does not compare favourably with that in urban districts. One of the greatest needs of the present day is the establishment, maintenance and extension of local health services. Since being established in 1926 in the province of Quebec, health units have cut infant mortality in two and have reduced the incidence of tuberculosis and other communicable diseases by about forty per cent. The extension of local health services throughout country districts would have an immediate effect in reducing morbidity and mortality of communicable diseases and maternal and infant mortality. The chief obstacle in adopting public health services in rural areas has been lack of knowledge and lack of funds and, unless financial assistance is afforded, it is doubtful if these services will be provided.

The brilliant results obtained in provinces which have established health units is put forward as a justification for the expenditure of Dominion, provincial and local funds for the provision of such units.

In a study prepared for the Royal Commission on Dominion-Provincial Relations on Public Health, we find the following statement in regard to local health services:

"The local health services are the weakest link in the Canadian organization of public health. The existing political units of local government are often entirely inadequate as units for health administration. Many are too small to support full-time services for the public health. Staffs, when engaged, consist of part-time health officers who are no doubt competent physicians but untrained in public health. Moreover because of their private interest they are hampered in the enforcement of the law. Part-time sanitary inspectors are usually men without any scientific training whatever. This sort of service cannot begin to apply the achievements of science to the protection of the health of the people. Furthermore, substantial areas of the country have little health service of any kind. These areas are too poor to attract the private physicians or to set up municipal services.

"The commonly accepted solution among public health authorities is a grouping of municipalities into health units that can supply an adequate full-time service for the protection of the public health. The fact is that health services have grown in a haphazard fashion as an off-shoot of existing political organization and with little attention to the health situation as such. Health units would be specifically designed to promote general health and would retain the local character best suited for the administration of a large part of public health work. Such units are a necessary complement to the work of the private physician and the municipal doctor, both of whom are primarily interested in people who are already ill. A nation-wide system of health units, properly staffed, would be able to provide a first-class service under each of the headings analyzed in this memorandum. It could organize the health resources of the country for a thoroughgoing programme of prevention and control."

Physical Defect

In a recent health survey of rural Manitoba youth covering 3,146 young people between the ages of 13 and 30, it was found that 70 per cent had one or more remediable defects or conditions which require medical attention.

29 per cent had defective vision; 42 per cent wore glasses or ought to wear them; 37 per cent of those who wore glasses were not getting proper correction.

9 per cent were underweight.

21.1 per cent had defective teeth.

40 per cent had had a tonsillectomy or required one.

14 per cent had had scarlet fever.

4 per cent had had diphtheria.

Of 3,142 given a chest examination, 46 were flat-chested, 19 pigeon-chested, and 37 suffered from rickets. Examination of the lungs indicated that 3 had marked resonance, 22 had adventitious sounds.

Of the 3,142 examined, 28 suffered from hernia and 31 had had an operation for this condition. The total incidence of hernia is 1.8 per cent.

Flat feet were found in 5.6 per cent of the entire group.

27.7 per cent gave a positive tuberculin test.

X-ray indicated that 17 were suffering from disease of the chest. Two were sent to a sanatorium for treatment.

Four gave a positive Wassermann reaction for syphilis.

20 per cent had never been vaccinated.

51 per cent had not been immunized against diphtheria.

The findings of the survey would indicate the need for an extension of public health and medical services in rural areas, including the extension of nutritional services.

Diseases of Middle Age

Considerable thought is being given to-day to the prevention and control of the diseases of middle life, such as cancer, heart disease, arterial disease, diabetes and diseases of the kidneys. Through the adoption of health insurance and through the adoption of periodic medical examination of children and young adults, much could be done to prevent the occurrence of these diseases and to extend the expectation of life in persons of middle age.

Trained Personnel

In discussing the question of the provision of adequate health services throughout the Dominion, it was pointed out that it would be impossible to provide such services, apart from the question of funds, on account of the inability of obtaining trained personnel such as public health physicians, public health nurses, public health sanitary engineers and sanitary inspectors. Without these no local health service can function effectively. Unfortunately, doctors, engineers, nurses and inspectors are unable to find the money necessary to obtain training and it will be possible for them to do so only by means of a subvention for this purpose.

In respect of trained personnel, the study prepared for the Royal Commission on Dominion-Provincial Relations on Public Health has the following to say:

“The quality of administration in the field of public health is of immense importance. Well trained staff with training specifically in public health is essential. Haphazard appointments, not necessarily dictated by partisan politics, are expensive. It is possible that substantial savings could be effected by administrative reorganization, weeding out of staff, improving qualifications of staff, checking carefully on administrative procedure, installing modern recording and reporting systems, etc. There is a scarcity of qualified personnel, trained for public health, in Canada. Some of the provinces have been very progressive in sending medical officers of health to medical schools for training in public health, and the City of Montreal has also been outstanding in this respect. The need is one that is felt by municipalities generally and it extends to nursing as well as to medical personnel. As long as this situation exists, there will be inefficiency in the public health services with costly results in the long run.”

Research

Public health research in the main has been neglected in Canada. Only a few of the provinces have paid any attention to the subject and very little, if anything, has been done by the Department of Pensions and National Health. There is great need for a comprehensive programme of research in regard to public health problems and particularly for field studies in public health.

The high mortality rates of particular diseases indicate that there are many health problems that require to be investigated in order that active steps may be taken for their solution. Some of these problems are interprovincial in nature and the provinces have no jurisdiction or means to study them. Noteworthy among these problems are maternal and child mortality, silicosis, Rocky Mountain spotted fever, plague (sylvatic), tularemia, encephalitis, poliomyelitis, trichinosis, leptospirosis. Unless the Dominion assumes responsibility for investigating these problems, they will remain uncontrolled.

The Social Security Act of the United States, which was based on the recommendations of a Committee on Economic Security appointed by the President of the United States in 1933, made special provision for public health, as follows:

“An annual appropriation not to exceed Eight Million Dollars for the purpose of assisting states, counties, and health districts and other political subdivisions of the states, in the establishment and maintenance of adequate health services including the training of personnel for state and local health work.

“An annual appropriation not to exceed Two Million Dollars to the Public Health Service for research activities of the Service and for the expense of co-operation with the states in the administration of the federal funds to be granted for aid in the establishment and maintenance of state and local health services.”

The need in Canada is as great as in the United States. In the early days in Canada municipalities accepted some degree of responsibility for the health of the individual. At a later date the provinces, realizing through experience that the municipalities could not provide full public health services, came to the rescue by establishing health departments or boards of health. We can no longer look upon the individual as a responsibility of the province or the municipality alone but as a Dominion responsibility as well.

Diseases and disabilities are not confined to local areas. An outbreak of disease in any part of Canada may be a menace to the whole country. The Dominion has recognized its responsibility by the creation of a Department of Pensions and National Health and the establishment of divisions such as Child and Maternal Hygiene, Industrial Hygiene and Food and Drug Control. To do full justice to the people of Canada it is essential that the Dominion aid the provinces and the local authorities in providing health services for the people. This was the consensus of the meeting. The demand is for greater assistance from the Dominion.

Vital Statistics

Although vital statistics as such are very good in Canada chiefly through the work of the Dominion Bureau of Statistics and the cooperation of the provinces, statistics of public health in a broad sense are inadequate. The main weakness lies in municipal statistics. Most provinces have not been very alert in obtaining information from the municipalities. On the side of costs an almost insuperable difficulty at the present time is that the municipalities have not had a uniform system of classifying their accounts. It would be desirable to bring about a common accounting system at the earliest possible time because until there is certainty about the basic statistics, policy will always be in part a matter of guesswork.

Expressions of Opinion

Following are some of the views expressed on the subject of public health deficiencies at the meeting:

Dr. Fleming

I think public health workers are agreed that, if we are to have public health work well done, we must have a good local health department. In a general sense we know what we mean when we speak of the programme of a local health department and, if that department is to do its job, it must have a trained staff and it must have a reasonable budget, and I think a reasonable budget for the local health department is \$1.00 per person per year approximately. I think that is the first job which faces us in Canada—to get local health departments organized to cover the country and, in order to do that, local areas will have to look to the Federal Government for financial aid. I am not appalled by the amount of money that the Dominion would have to make available to stimulate that type of work in Canada. I am not prepared to suggest what that sum of money should be but I believe that the money should be distributed through the provinces to the local areas, the same as in the United States, that is, on the basis of population, health needs and the economic condition of that area. I think we should have good local health organizations.

Dr. Heagerty

I think it is within the competence of this Department to draw up a plan of organization. It need not be accepted in all of its details by the various provinces. There must be some general plan of organization that will cover the entire country which will include the local municipal health agencies, provincial and Dominion health departments. It is essential that the Dominion Department of Health should be tied in with the general plan of public health for the whole country. We should not work independently. It is obvious that if the Dominion Government accepts the principle of giving grants it is on the basis that the Dominion Government is interested in the individual and in the welfare of that individual.

Mrs. Smith

I want to speak more as a member of the Legislature of British Columbia in interpreting what I know of public opinion in regard to health. As we are speaking of an amount equal to \$1.00 per capita from the Dominion Government, I believe that we don't need to educate public opinion in regard to health needs and the satisfaction of those needs. People have been very unhappy for a long time and they really know what they want but they do not know how to get it. We can not plan a programme too comprehensively. The public will be satisfied with the widest programme that can be arranged. People are expecting to plan in a big way for the future. We may not have the opportunity of this particular situation later on and I would like to see this meeting do something quite big and offer a big programme. I believe it would be a very great encouragement to provincial governments if the national government would give the lead in a big plan. It would not only encourage provincial members but it would satisfy the people who are interested in their own provincial governments that something has been done. Security is all they want. Unemployment insurance is the answer to that as far as unemployment is concerned, and health insurance will be the answer as far as health is concerned.

Dr. Phair

Speaking for the Province of Ontario, every municipality of the nine hundred and two municipalities is spending something for local health administration. Is it reasonable to suggest that they might under some plan which incorporates local and provincial participation be asked to spend thirty-three and a third cents; that the provincial department be asked to spend with them another thirty-three and a third cents, making sixty-six and two-third cents? If so, a further contribution of thirty-three and a third cents might be contributed by the Federal Department of Health. I mean straight public health as we understand it.

Dr. Leggett

I feel that this is a very weighty body gathered here. I believe that the public is thoroughly prepared for almost any expense within reason on the subject of public health services. I feel that this body can assure the Minister and all the Ministers that the administration of any money that they would set aside for this purpose would be thoroughly taken care of and for that reason I would like to see these large figures that have been mentioned considered in all seriousness. I do not think the figures are too large.

Dr. Lesage

The programme appeals to me very, very much . . . I agree about public opinion . . . I am greatly in favour of centralizing the whole organization and to obtain results we must have good trained personnel.

Dr. Bow

This appears to me to be one of the most important conferences that has ever been held in Canada in many respects, because for the first time we are really getting down to consideration of what I hope will be a long term programme in prevention of disease. At the same time we cannot divorce the question of treatment from the question of prevention entirely. The facts that we find in the course of our work, particularly in the rural areas, go to emphasize that statement. We find conditions of malnutrition; 80% of the children suffering from poor teeth, diseased tonsils, etc. Our present problem, as I see it, has two aspects:

- (1) As brought out in the report we heard to-day—lack of services of the type of which I speak—full-time preventive health services in our rural districts and smaller centres, that is the fundamental thing. There is a fairly efficient set-up in the provinces of Canada with the funds available, but the point is that we are not getting to our local areas, giving them the type of service we know is a minimum requirement in the prevention service from the point of good health. We can only do that with funds made available and adequate personnel.
- (2) The second need is the fact that in the course of our work in these health units, we are finding from day to day conditions that are definitely affecting the health and progress of the child as a future citizen. We have no means

by which that condition can be rectified. We have a vast number of people in our provinces who have not the means to pay for the service that is required to correct these defects. The question of personnel is, to my mind, one of the most important questions involved. We have six full-time health units in our province and we have a scheme projected which will extend those units until the whole province is served. We will require 36 units. We serve towns of 1,500 down to villages of 100 people as well as rural municipalities which number anywhere from four to a maximum of eight people. We find it difficult to go forward with an extension of that programme by inability of obtaining trained personnel. We have not the personnel available in Canada—that to my mind should be a matter to receive consideration.

I am impressed with the fact that there is a tremendous interest taken on the part of the public.

Dr. Amyot

In considering the type of service, the local service, except possibly the very large city, is primarily a generalized public health service. It is the service that makes available to the people specialized and generalized medicine that has been developed in the field of public health and prevention and which knowledge is taken from the provincial, national and even international bodies, so that your translating agency, as I see it—the knowledge that the people must have—is the local health service. It is the local health service in our country and in the United States that has been the forgotten man. The majority of our population come under the rural group and the small city and town. They are not now supplied with adequate health services and for that reason the health unit has been developed.

I feel that those who spoke this afternoon of the possibilities of developing the utilization of outdoor clinics and the utilization of health services as a training ground of internes held out something that may seem a little idealistic but from a practical, economic and administrative point of view held out something that with the stimulation of federal money and with reasonable requirements should make it possible to develop in Canada as fine a service as it is possible to develop for the people of Canada in the health field.

Dr. Defries

With regard to the question of personnel and the fear that there would not be available trained personnel, there is no doubt about the situation as it exists today . . . I know from the letters received in Canada at the School of Hygiene that there are a very considerable number of men who are very definitely interested and would go forward if there were assistance to aid them. That is the situation at the present time. There are young engineers who simply cannot at the close of their University course take a course in public health without some assistance. That also applies to other professions. We should have funds available to aid such men. Many men have no assistance and have not been able to go forward.

It was obvious from the discussion that there is an insistent demand for expansion in the field of public health and particularly in the field of local health services as exemplified by the health unit as well as for financial assistance to aid young physicians, engineers, nurses and sanitary inspectors to take special courses in public health to fit them to carry out their duties in the public health field in an efficient manner. The discussion indicated the need for financial assistance in providing free treatment for all those suffering from tuberculosis, mental diseases and venereal diseases, and for supplementing public health services. It was the opinion of the meeting that the expansion of local health services through the establishment of health units throughout the country was fundamental to any advance in the field of public health.

Following the discussion of the subject of public health, that of medical care in Canada was presented by the Director of Public Health Services for consideration. This presentation reviewed the steps taken in Canada towards the provision of health insurance. Reference was made to the British Columbia Health Insurance Act and to the Alberta Health Insurance Act, to the constitutional aspect and to the reports

of the Select Standing Committee on Industrial and International Relations. The views of Provincial Executive Committees of the Trades and Labour Congress and Railway Transportation Brotherhoods were given, also an estimate of cost based upon a study of the cost of medical care in Canada in 1935, made by the Bureau of Statistics at the request of the Department of Pensions and National Health, together with a summation of a number of studies on the costs of medical care that had been made in various parts of the United States and Canada.

The discussion which followed the presentation of the subject of health insurance supported the principle of the need for health insurance, and the opinion was expressed that the people desired it and that the medical profession was willing to grant every assistance needed for the formulation of a health insurance plan.

The Report of the Advisory Committee on Health Insurance, contained in the following pages, presents, in addition to a Draft Health Insurance Bill, statistical information relating to the health of the people of Canada together with a detailed study of health insurance plans now in operation in other countries. There is also included a survey of public health departments, of hospitals, and of the economic status of Canada, as well as an estimate of the cost of health insurance.

It is considered by the Committee that this information, which was of so great value to the Committee, will prove equally valuable to the provinces when considering the problem of health insurance.

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PART I

**DRAFT HEALTH INSURANCE MEASURE
FOR CANADA**

CHAPTER I

Summary of Draft Bill

The modern conception of health insurance is the reduction of morbidity and mortality by prevention and treatment. It was with this object that the Advisory Committee on Health Insurance prepared a combined draft Public Health and Health Insurance Bill.

Subject to the provision of this draft Bill, the Governor in Council may make an agreement with the Lieutenant-Governor in Council of any province to make grants for public health and medical care provided that the province makes statutory provision for utilizing both grants. The grants are specified in the First and Third Schedules to the Act.

The draft Bill is based on compulsory and contributory insurance.

Insured Persons.—The draft Health Insurance Bill is planned to include all persons resident in Canada by agreement with the provinces. It is considered essential that everyone in Canada should be provided with health insurance. Nevertheless, no compulsion is placed upon the provinces in this respect other than that all indigents must be included in the plan.

Health Insurance Fund.—To provide health insurance, it will be necessary to create a Health Insurance Fund comprising money contributed by insured persons, employers, the Provincial Government and the Dominion Government. By so distributing the cost, the financial burden will be considerably lessened.

After careful thought and consideration, it is believed advisable from the standpoint of the collection of contributions to divide insured persons into two classes: "employed insured persons" and "assessed insured persons." The payment of contributions has been so devised that these classes will contribute in proportion to their wage or income. If an employed person is capable of paying the entire cost for himself and his dependents, he shall be obliged to do so. If unable to pay the entire cost, his employer will pay the difference. The combined contributions of employer and employee will be supplemented by a Dominion grant. Assessed insured persons are unemployed who have an income from a source other than wages, or who are indigent. Like the employed insured persons, the assessed insured person, if he can do so, will pay the entire cost; if not, the province will pay the difference. Financial assistance will be provided by the Dominion Government. There will

be no direct charge for children. All children will be distributed equally among insured persons.

Registration.—As soon as health insurance is adopted in a province, all residents will be registered and classified and will be instructed to select a doctor from a list provided after consultation between the Provincial Health Insurance Commission and authorized medical body.

The method of payment of physicians, nurses and others will be left to the decision of the Provincial Health Insurance Commission but it is suggested by the Advisory Committee on Health Insurance that payment on a capitation basis would facilitate the provision of medical benefits. Also, it is considered desirable that the services of the physician should be utilized for prevention as well as treatment. Thus, the physician would have a responsibility for the health of each member of the family and be responsible for public health measures designed to reduce morbidity and mortality. He would act as counsellor, adviser and supervisor in respect of the health of the whole family as a unit.

Benefits.—The benefits comprise prevention of disease and the application of all necessary diagnostic and curative procedures and treatments including medical, surgical, obstetrical, dental, pharmaceutical, hospital and nursing benefits and such other ancillary services as may be deemed necessary. Provision is not made for cash benefit due to unemployment caused by illness as it is considered that such benefit should be provided by Unemployment Insurance or by other means.

Medical benefits include the services of a general practitioner, consultant, specialist, surgeon, obstetrician, hospitalization and nurse. Nursing in the home is confined to the visiting nurse except where the circumstances are such that bedside nursing is essential.

Dental benefit must of necessity be restricted as the number of dentists in Canada is insufficient to provide full and complete dental care for all. It is proposed that the Provincial Dental Association make an arrangement with the Provincial Health Insurance Commission to provide every child up to sixteen years of age with a semi-annual dental examination and such reparative dentistry as is needed. Dental care may be provided others to the extent that the funds and the number of available dentists will permit.

Pharmaceutical benefit shall be provided in accordance with a list of drugs to be drawn up in cooperation with the Provincial Health Insurance Commission and the Provincial Pharmaceutical Association. Special provision may be made respecting drugs and pharmaceutical preparations known as specialties.

Hospital benefit is to include general ward services unless the insured person wishes by paying the difference to obtain semi-private or private room. In special cases accommodation other than general ward may be provided. The terms of agreement for hospitalization will be arranged by the Provincial Health Insurance Commission with the Provincial Hospital Association.

Nursing benefit, outlined above, will be provided by the Provincial Health Insurance Commission in cooperation with the Provincial Nursing Association.

Administration.—Provision is made for administration through a Health Insurance Commission in each of the provinces. In considering the question of administration, it was the opinion of the Provincial Deputy Ministers or Chief Medical Officers of Health of the provinces and the Advisory Committee on Health Insurance that administration should be by the Government for the people through Provincial Departments of Health. Nevertheless, the Canadian Medical Association and other professional and lay groups favoured a Commission. In view of this preponderance of opinion, provision has been made in the draft Health Insurance Bill for a Commission comprising a Chairman who shall be a doctor of medicine, the Deputy Minister of Health of the province (*ex-officio*), and such other number of persons as may be determined from time to time by the Lieutenant-Governor in Council after consultation with representatives of professional groups, labour, agriculture, industry, etc.

Provision has been made to provide benefits only after the Health Insurance Commission has consulted with the professional groups providing benefits but should they not cooperate the Health Insurance Commission is empowered to appoint committees for the purpose. Authority is given the Provincial Health Insurance Commission to study the resources of the province and facilities available for providing benefits and to divide the province into administrative and public health areas.

The supervision of the provision of benefits is to be placed under Regional Officers.

The Provincial Health Insurance Commission may be authorized by regulation to establish such committees, councils or other bodies or instrumentalities as may be deemed advisable for consultative, advis-

ory and executive purposes as well as for obtaining effective cooperation in the administration of the Health Insurance Bill. The constitution, duties and powers of such committees, councils, etc., shall be prescribed by regulation.

Inasmuch as Dominion administration is confined to the administration of Dominion grants, it is not considered necessary to create a Dominion Health Insurance Commission as administration may be carried out by a Health Insurance Division in the Department of Pensions and National Health under a Director of Health Insurance.

One of the chief disadvantages of administration of health insurance provincially is decentralization. To overcome this, provision is made in the Bill for the creation of a National Council on Health Insurance, comprising the Director of Health Insurance of the Department of Pensions and National Health as Chairman, the Deputy Minister of Health of each province, the Chief Administrative Officer of each province which has established a Health Insurance Act and such other persons comprising a representative of the Canadian Medical Association, the Canadian Dental Association, Canadian Hospital Council, the pharmacal and nursing professions, labour, industry, agriculture and urban and rural women respectively as may be appointed by the Governor in Council. None of these will receive remuneration but will be paid travelling expenses and maintenance.

GRANTS

Health Insurance Grant.—To assist the provinces in providing health insurance benefits as outlined above.

Tuberculosis Grant.—This grant is designed to help provide free treatment for all persons suffering from tuberculosis including the provision of additional buildings and bed accommodation. The reduction of mortality in those provinces which provide free treatment indicates that the provision of free treatment is an essential to the elimination of tuberculosis.

Mental Disease Grant.—To assist in the provision of free treatment for those suffering from mental illness including the provision of additional buildings and bed accommodation. In this field Dominion assistance is urgently needed.

General Public Health Grant.—The object of this grant as laid down in the Third Schedule to the draft Bill is to assist the provinces in establishing and maintaining public health services commensurate with the needs of their people. The same problem

has confronted the United States and has been solved by the provision of funds to raise the per capita expenditure on public health. It is proposed that the Dominion should make a per capita public health grant to the people of Canada. The justification is the responsibility of the Dominion for public health problems that are national in character.

Venereal Disease Grant.—To aid in providing preventive and free treatment for persons suffering from venereal diseases on the same basis as the original Dominion venereal disease grant of \$200,000 which was discontinued in 1932.

Grant for Professional Training.—As the name implies, this grant is to afford financial assistance to doctors, sanitary engineers and others who wish to take university courses leading to degrees in public health.

Investigational Grant.—To enable the provinces to carry out special public health studies, funds are needed. It has been found impossible to carry out studies in public health and to provide skilled personnel during epidemics because of lack of funds.

Physical Fitness Grant.—In view of the facts elicited in regard to physical defects among the youth of Canada, the creation of a physical fitness plan to prevent physical defects is considered essential.

It will be clear from this brief summary that, apart from the reduction of morbidity and mortality of disease, the fundamental and primary object is the integration of public health and medical care for the purpose of raising and maintaining the standard of health of the people of Canada.

CHAPTER II

Draft Bill

AN ACT RESPECTING HEALTH INSURANCE, PUBLIC HEALTH, THE CONSERVATION OF HEALTH, THE PREVENTION OF DISEASE, AND OTHER MATTERS RELATED THERETO.

His Majesty, by and with the consent of the Senate and the House of Commons enacts as follows:

Short title.

Definitions.

"authorities of any province".

"authorities of a province."

"Minister".

"statutory provision".

Power of Governor in Council to make grants to province for certain purposes and subject to conditions.

Extent of statutory provision respecting health insurance.

Extent of statutory provision respecting public health.

Approval by Governor in Council of statutory provisions other than those mentioned in Sections 4 and 5.

1. This Act may be cited as the Health Act.

2. In this Act and in any regulations or agreement made thereunder, unless the context otherwise requires,—

- (a) "authorities of any province" or "authorities of a province" means the officer or body charged by law with the carrying into effect of any agreement made pursuant to this Act between the Governor in Council and the Lieutenant-Governor in Council of the province;
- (b) "Minister" means the Minister of Pensions and National Health;
- (c) "statutory provision" includes any provision made by ordinance or by order or regulation having the force of a statutory provision.

3. Subject to the provisions hereinafter contained, the Governor in Council may make an agreement with the Lieutenant-Governor in Council of any province for the payment to the province of grants, (a) for the objects, (b) subject to the special conditions, and (c) in the amounts, specified in the First Schedule to this Act, provided that the province has made statutory provision for the economic and efficient use of the said grants, but in no case shall an agreement be made with any province unless the province has made statutory provision as aforesaid for utilizing both the "Health Insurance Grant" and the "Public Health Grant" specified in the said Schedule.

4. The statutory provisions as respects health insurance shall be in such terms as to provide health insurance benefits,

- (a) of the standards,
- (b) under the conditions, and
- (c) for the classes of persons,

as set forth in "A Draft for a Health Insurance Act" in the Second Schedule to this Act, or substantially in the terms aforesaid, or in such terms as, having regard for all of the circumstances, for the special conditions affecting the province as a whole, or any special areas in the province, may be accepted by the Governor in Council as a satisfactory practical measure of health insurance for the province.

5. The statutory provision as respects public health shall include services and activities as set forth in the Third Schedule to this Act, or substantially as therein set forth, or such services and activities as, having regard for all of the circumstances, for the special conditions affecting the province as a whole, or any special areas therein, may be approved by the Governor in Council as a satisfactory practical measure of public health for the province.

6. The statutory provisions aforesaid other than those referred to in Sections 4 and 5 hereof, shall,

- (a) be such as may be approved by the Governor in Council as a sound basis for attaining the objects which the grants are intended to secure, and
- (b) provide such additional moneys for those objects as may from time to time be required as a condition of the grants by regulation made hereunder.

Agreement based on report by Minister.

Terms of agreement.

Making effective provisions of Act.

Provision for records necessary to show operations and effect; uniformity of such provisions.

Duration of agreement.

Obligations of province.

Continued acceptability to Governor in Council of statutory provisions.

10 years' notice by Governor in Council.

Grants on certificate of Minister.

Reduction of grants in certain circumstances.

Statement to province of matters inducing reduction.

Power to assist province.

Circumstances in which assistance may be given.

7. (1) Every agreement made under section 3 of this Act shall be based on a report by the Minister to the effect that the foregoing requirements of this Act for the making of the agreement are satisfied.

(2) There shall be included in every such agreement

- (a) such terms as may be necessary to make effective any provisions of this Act which would not otherwise be effective; and
- (b) provision for the maintenance by the province of such records, accounts and statistics as may be necessary to disclose in full the operations and effect of the agreement, and as far as may be practicable the provisions aforesaid shall be uniform in all such agreements.

(3) Every such agreement shall continue in force only as long as

- (a) the province continues to give full effect to the agreement and to the statutory provisions on which the agreement is founded, and
- (b) the statutory provisions continue to be acceptable to the Governor in Council as a satisfactory basis for making an agreement hereunder within the meaning of the foregoing provisions of this Act;

or until after the expiration of 10 years from the date upon which the Governor in Council gives notice to the Lieutenant-Governor of the province of an intention to determine the agreement.

8. (1) All grants in pursuance of any agreement made hereunder shall be payable out of any unappropriated moneys in the Consolidated Revenue Fund of Canada on the certificate of the Minister to the effect that the terms of the agreement have been duly complied with and that the statutory provisions on which the agreement is based continue to be such as would justify the making of an agreement hereunder.

(2) If at any time the Minister reports to the Governor in Council that the conditions of any such agreement are not being complied with, or that proper effect is not being given to the statutory provisions or that the statutory provisions can no longer be considered to be a satisfactory basis for the making of an agreement hereunder, the Governor in Council may, on concurrence with a recommendation of the Minister in that behalf, make such reduction, as may in the circumstances appear reasonable to the Governor in Council, in the subsequent payments of any grant concerning which the Minister reports as aforesaid, but any such reduction in a grant shall not be made effective until the expiry of such period, not exceeding one year, as the Governor in Council may by notice allow to the province for the rectification of the matters reported on by the Minister, and any such period may in like manner be extended on report and recommendation of the Minister with the concurrence of the Governor in Council.

(3) In notifying the province as aforesaid, a full statement of particulars of the matter so reported on by the Minister shall be furnished to the province.

9. (1) Subject to the provisions hereinafter contained, the Minister may, at the request of the authorities in any province and subject to such terms as may be agreed upon between the Minister and the said authorities, assist the province in carrying into effect the terms of any agreement made hereunder and of the statutory provisions on which the agreement is founded.

(2) The Minister may give assistance as aforesaid

- (a) in case of an emergency affecting public health;
- (b) for any special investigation or inquiry;
- (c) as respects any specific problems of administration; or
- (d) for the purpose of enabling any province to bring into operation any agreement hereunder with such province.

Kinds of assistance which may be given.

- (3) The Minister may render assistance as aforesaid by
- affording opportunities for consultation between professional and technical members of his staff and the members of the staff of the province concerned with the matters aforesaid;
 - placing technical and professional personnel at the disposal of the authorities of the province;
 - making available to the authorities of the province drafts of regulations and forms and draft procedure for carrying into effect any agreement made hereunder; and
 - such other means as may be at his disposal for assisting in the matters aforesaid;

and the Minister may, subject to any regulations or order made hereunder, make available for the purposes aforesaid such financial assistance as Parliament may from time to time provide.

Data in Dominion offices, availability to province.

10. For the purpose of enabling any province the more readily to bring into operation any scheme of health insurance for which an agreement has been made hereunder, the Governor in Council may order, subject to such conditions as may be prescribed by the Governor in Council, that there be made available to the province, as far as may be found practicable, any data concerning persons residing in the province which may have been obtained by any Department or Branch of the public service as the result of any registration of persons resident in the province.

11. In any agreement made hereunder it shall be provided

- that unless the Minister otherwise directs in any case, a copy of every statistical or other report made by any local or regional authority to the authorities of the province, and a copy of every like report made by the relevant authorities of the province for use of the Lieutenant Governor in Council or any department of government as respects the operations under any statutory provision by virtue of which an agreement has been made hereunder, shall be deposited with the Minister as soon as may be after the report is made; and
- that said authorities of the province shall from time to time furnish to the Minister such additional statistical and other data as may in the opinion of the Minister be necessary
 - to enable the minister to carry out the terms of any agreement made hereunder and of this Act; and
 - to set forth the extent and nature of the operations aforesaid as fully as the Minister may from time to time require; and
- that the said authorities shall at all times make available to the Minister, or to his representative appointed for the purpose, all records, documents, accounts and statistics relating to the operations aforesaid.

12. (1) The Governor in Council may on the recommendation of the Minister investigate and report on all questions relating to the operations under any agreement made hereunder.

(2) For the purpose of any such investigation the person so appointed shall have the powers of a Commissioner under the Inquiries Act.

13. (1) Any person authorized by the Minister to act as an inspector, shall, for the purpose of the execution of this Act, have power, subject to the instructions of the Minister in that behalf, to do all or any of the following things—

- to inquire into any matters concerning which a report is required to be made under the last preceding section of this Act or concerning the operations referred to in that section.

Inquiry into matters subject to report and concerning operations.

Powers of person appointed for investigation; 1927 R.S.C. cap. 99.

Powers of duly authorized inspectors.

Inquiry into matters subject to report and concerning operations.

Records of provincial insurance authority, availability as part of terms of agreement.

Investigation and report on provincial operations.

Powers of person appointed for investigation; 1927 R.S.C. cap. 99.

Powers of duly authorized inspectors.

Inquiry as to compliance with statutory provisions and terms of agreement and as to effectiveness of statutory provisions.

Right of entry into certain premises.

Right to examine records relating to administration under agreement.

Proviso.

Certificate of appointment of inspector, production of when required.

Penalty for wilful obstruction of inspector.

Power of Governor in Council to make necessary regulations.

Establishment of Public Health and Health Insurance Division of Department.

Establishment of National Health Insurance and personnel thereof.

Term of office of members. Meetings.

Duties and powers of Council: reports to Minister.

Travelling and living expenses to members.

- (b) to make such examination and inquiry as may be necessary for ascertaining whether proper effect is being given to the statutory provisions on which any agreement hereunder is based and to the terms of any such agreement, and whether the said statutory provisions contrive to be a satisfactory basis for an agreement hereunder.
- (c) To enter at all reasonable times any premises or place (other than a private dwelling not being a hospital), in which patients are treated or which is used in the carrying out of any of the statutory provisions on which an agreement hereunder is based.
- (d) to examine all records, documents and accounts in the possession of any officer or employee concerned with the administration of any agreement made under this Act and of the statutory provisions on which the agreement is based.

Provided that the provisions of this subsection shall not apply to the private office at which any person carries out his professional undertakings pursuant to arrangements made with him under any statutory provision on which an agreement is made hereunder as respects health insurance, nor to any such person.

(2) Every inspector shall be furnished with a certificate of his appointment as such, and on applying for admission to any premises or place for the purpose of carrying out his duties under this Act shall, if so required, produce the said certificate to the occupier of such premises or place.

(3) If any person wilfully delays or obstructs an inspector in the exercise of any power given to him herein or fails to give such information or to produce such documents as are required to be produced or given herein or conceals or prevents or attempts to conceal or prevent any person from appearing before or being examined by an inspector, he shall be guilty of an offence under this Act and liable on summary conviction to a fine not exceeding \$25.00.

14. The Governor in Council may make any regulations necessary for giving effect to the purposes and intent of this Act or of any agreement made thereunder.

15. For the administration of this Act there shall be established within the Department of Pensions and National Health a division to be known as the "Public Health and Health Insurance Division" which shall include the present "Public Health Division".

16. (1) There shall be a National Council on Health Insurance consisting of the Director of Health Insurance of the Department of Pensions and National Health (or other corresponding officer), who shall be chairman, the Deputy Minister of Health in each province, the Chief Administrative Officer of Health Insurance of each province which has established a Health Insurance Act (in each case subject to the consent of the province), and such other persons comprising a representative of the Canadian Medical Association, the Canadian Hospital Council, the pharmaceutical, nursing, and dental professions, labour, industry, agriculture, urban women, and rural women, respectively, as may be appointed by the Governor in Council.

(2) The members appointed as aforesaid shall hold office for three years.

(3) The Council shall hold an annual meeting at Ottawa and shall meet at such other times and places as the Minister may direct.

(4) The Council shall be charged with such duties and powers as the Governor in Council may prescribe, and all reports of the Council shall be made to the Minister in such form and under such conditions as he may require.

(5) Each member of the Council shall receive such travelling and living expenses in connection with the work of the Council as may be approved by the Governor in Council.

Reference of matters by
Minister to Council.

Return by Minister to
Parliament each session.

(6) The minister may from time to time refer to the Council for consideration and advice such matters relating to the operation of this Act as the Minister thinks fit including the advisability of amending this Act.

17. The Minister shall lay before both Houses of Parliament, within the first 30 days of each session thereof, a return containing

- (a) a full and clear statement of all transactions in pursuance of this Act, and of any agreements made thereunder, during the fiscal year next previous to such session;
- (b) copies of all regulations made during the fiscal year under this Act; and
- (c) statements in summary form concerning the operations by the provinces under any agreements made hereunder, together with such additional information as the Minister may consider in the public interest.

FIRST SCHEDULE

(Section 3)

Designation of Grant	Purposes of Grant	Special Conditions Governing Grant	Annual Amount of Grant
Health Insurance Grant	To provide health insurance benefits.	Approval of the Governor in Council of the scheme of health insurance in the province.	\$..... in respect of each of the total number, calculated in the prescribed manner, of the persons under health insurance for the year, including the dependants of the insured persons.
Tuberculosis (treatment) Grant	To provide free treatment for all persons suffering from tuberculosis, including the provision of additional buildings and bed accommodation.	The province to provide free treatment for persons suffering from tuberculosis, resident in the province, to the satisfaction of the Governor in Council.	*..... of the moneys expended by the province for the free treatment of persons suffering from tuberculosis, excluding capital expenditure.
Mental Disease (treatment) Grant	To provide free treatment for persons suffering from mental illness, and for mental defectives, including the provision of additional buildings and bed accommodation.	The province to provide free treatment for all residents of the province suffering from mental illness, and for mental defectives, to the satisfaction of the Governor in Council.	*..... of the moneys expended by the province for the free treatment of persons suffering from mental illness, and for mental defectives, excluding capital expenditure.
General Public Health Grant	To assist the province in establishing and maintaining public health services throughout the province.	Approved by the Governor in Council of the public health services and activities in the province.	*..... of the moneys expended by the province for public health services but not exceeding cents in respect of each of the total number, calculated in the prescribed manner, of persons resident in the province for the year.

* The proportion of provincial expenditures for these purposes will be entered in the draft for Parliament.

Designation of Grant	Purposes of Grant	Special Conditions Governing Grant	Annual Amount of Grant
Special Public Health Grants: (1) Venereal Disease	To conduct a comprehensive venereal disease programme of prevention and control and to provide free diagnostic and treatment clinics in urban and rural areas.	The province to satisfy the Governor in Council of the need for the grant and of its effective employment.	\$..... to be divided among the provinces on a per capita basis.
(2) Professional Training	To enable the province to provide for the training in public health of physicians, engineers, nurses and sanitary inspectors.	The province to satisfy the Governor in Council of the need for the grant and of its effective employment.	Not to exceed \$..... to be divided among the provinces on a basis of need.
(3) Investigational	To enable the province to carry out any special investigation concerning public health or public health measures.	The province to satisfy the Governor in Council of the need for the grant and of its effective employment.	Not to exceed \$..... for any one investigation.
(4) Youth (physical fitness)	To enable the province to establish and to conduct a programme for the physical development of youth.	Approval of the Governor in Council of the proposed scheme and like approval of the scheme in operation.	Not to exceed \$..... to be divided among the provinces on a per capita basis.

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SECOND SCHEDULE

(Section 4)

A Draft for a Health Insurance Act

His Majesty, by and with the advice and consent of the Legislative Assembly enacts as follows:

SHORT TITLE

1. This Act may be cited as The Health Insurance Act, 194..

INTERPRETATION.

2. (1) In this Act and in any regulations, agreement or order made thereunder, unless the context otherwise requires,—

- (a) "Commission", means the Health Insurance Commission created by this Act;
- (b) "Minister", means the Minister of Health;
- (c) "prescribed", means prescribed by regulation of the Commission;
- (d) "regulation", means any regulation made pursuant to this Act;

(2) In this Act and in any regulation, agreement or order made thereunder, unless the context otherwise requires, each of the following expressions shall have the meaning assigned thereto in the section of this Act cited in this subsection:

- (a) "assessed contributors", section 5;
- (b) "earnings", section 8;
- (c) "employed contributors", section 5;
- (d) "employed persons", section 5;
- (e) "employer's contribution", section 10;
- (f) "equalized value", section 21;
- (g) "health insurance books", section 17;
- (h) "health insurance cards", section 17;
- (i) "Health Insurance Fund", section 26;
- (j) "health insurance stamps", section 17;
- (k) "medical practitioners," section 28;
- (l) "qualified person", section 3.

Persons Qualified to Receive Benefits

All residents and children.

3. (1) Subject to the provisions of this Act, all persons who have their normal place of residence in the province, and in whose case the requirements of this Act are complied with by them or on their behalf, shall be qualified to receive the benefits of health insurance conferred by this Act for themselves and for any children under the prescribed age of whom they have for the time being the care and control.

(2) Any person who is entitled to the benefit of health insurance as aforesaid may be referred to as a "qualified person".

Source of Insurance Moneys

4. (1) Subject to the provisions of this Act, the moneys required for defraying the cost of the benefits conferred by this Act, and for making any other payments which under this Act may be made out of the Health Insurance Fund established thereunder, shall be derived partly from contributions paid by and on behalf of insured persons as required by this Act, and partly from grants made pursuant to any Act of the Parliament of Canada for the purpose of providing the health insurance benefits under this Act.

(2) The contribution payable by, or by and on behalf of, insured persons shall be as set forth in Schedule A to this Act.

Amount of contribution,
Schedule A.

Contributors

Employments, Schedule B; contributions from employed persons.

"Employed persons."

"Employed contributors."

Persons as "assessed contributors."

Contributions for dependants.

Wife or husband of contributor a defendant.

No contribution for child unless employed.

Contributions in year partly as employed and partly as assessed contributor; provision for refund or credit in such cases.

Establishment of register by filing of return.

Schedule C.

Partial completion of return if full contribution made for year.

No further contribution for relevant period.

5. (1) Subject to the provisions of this Act, all persons who are employed in any of the employments specified in Schedule B to this Act, shall, while so employed, contribute hereunder as employed persons.

(2) All persons employed as aforesaid may be referred to as "employed persons" and all persons who contribute as employed persons may be referred to as "employed contributors".

(3) All persons required to contribute hereunder otherwise than as employed persons shall be assessed yearly, in the manner provided by this Act, for the amount they are to contribute, and all persons who contribute as assessed persons may be referred to as "assessed contributors".

(4) If any employed contributor, or any assessed contributor, has dependent on him for support any person, other than a child as referred to in subsection (1) of section 3, he shall be liable to pay the contribution of that person, as set forth in Schedule A to this Act, for any part of the year for which the contribution of that person is not otherwise paid; but if in any case partial dependency is established, a proportion of the aforesaid contribution shall be payable by the said contributor equal to the proportion in which he supports the said person.

(5) Unless it is otherwise established in any case, the wife or husband of any contributor shall, for the purposes of this section, be deemed to be fully dependent on that contributor for support.

(6) Notwithstanding anything in this Act contained, no contribution shall be required to be made by or on behalf of a child under the prescribed age except contributions required to be made thereunder by or on behalf of any such child as an employed person.

6. (1) Any person who contributes for a part of any year as an employed contributor shall contribute for the remainder of that year as an assessed contributor, and if any person contributes hereunder for any portion of a year both as an assessed contributor and as an employed contributor, a refund shall be made to him of the amount of the contributions paid by him as an assessed contributor for the aforesaid portion of the year or the said amount may be applied to pay any contribution of any person who is dependent on him and for whom he is liable to make contribution as aforesaid.

Registration

7. (1) For the purpose of enabling the Commission

- (a) to establish and maintain a register of qualified persons and of the dependants of those persons;
- (b) to assess in the manner required by this Act all persons required to contribute thereunder otherwise than as employed contributors; and
- (c) for other purposes of this Act;

every person resident within the province shall, whenever called upon so to do, but not oftener than once each year, file a return with the Commission in the form set forth in Schedule C to this Act and verified by affidavit as included therein.

(2) Any person who is called upon to complete and file such return may, in lieu of completing the whole return, complete only Parts I and II thereof and file the return completed to that extent, if at the time of so filing the return he pays the amount of the full contribution for the year, as required by this Act, for himself and for any other person for whom he is required to make contribution hereunder.

(3) Any person who makes contribution, or on whose behalf contribution is made, as provided in the last preceding subsection, shall not be required to contribute as an employed contributor for any part of the year to which the contribution so made relates.

Power of Commission to require additional information.

Power of Commission to assess.

Regulations respecting returns, penalties, etc.

Contributions; relation to earnings; when employer contributes part.

Proviso.

When working-period deemed equal to calendar week.

When working-period deemed less than calendar week.

Proviso

"earnings".

(4) Every person who files a return as aforesaid shall promptly answer any inquiries of the Commission concerning any entry in the return or concerning any omissions therefrom, and the Commission shall make such other inquiries as may appear necessary to ascertain the correctness of the return and of any information obtained as a result of any such inquiry.

(5) The Commission shall not be bound by any entry in any such return nor by information obtained as a result of any inquiry as aforesaid, and, subject to the provisions hereinafter contained, the Commission may assess any such person as being possessed of property of such a value, and of income in such an amount, as may to them seem just and correct.

(6) Regulations may be made hereunder

- (a) varying the information called for by the form in Schedule C to this Act so as to better carry out the intentions of this Act.
- (b) prescribing the date of filing of the said return.
- (c) prescribing penalties for any default in complying with the provisions of this section.
- (d) as may be necessary to give effect to the intentions of this section.

Contributions of Employed Contributors

8. (1) Subject to the provisions of this Act and to any regulations made thereunder, a contribution shall be payable by every employed person of .. per cent of his earnings, but not exceeding the amount set forth in Schedule A to this Act for any pay-period therein specified during the whole of which such person works for any one employer, and in any case where the contribution so payable by an employed person falls short of that amount, a contribution shall be payable on behalf of the employed person by his employer in an amount sufficient to bring the sum of the contributions so payable by the employed person and on his behalf by his employer up to the amount specified as aforesaid for the pay-period: Provided that, notwithstanding anything in this Act to the contrary, contributions shall not be required to be paid in any year for pay-periods exceeding a total of forty-eight weeks.

(2) Where an employed person works in any calendar week for the full working-week for any employer, he shall be deemed to have worked for the whole of that calendar week for that employer, and no contribution shall be payable in respect of him by any other employer in or in respect of that week.

(3) Where an employed person in any calendar week is employed by any employer for a shorter period than the full working-week, then a contribution of the daily amount specified in the said Schedule shall be payable by and on behalf of the employed person for each day during the whole or part of which he is employed in that calendar week by any employer, but the amount so payable by the employed person shall not exceed the said percentage of his earnings for the days he is so employed in any such week: Provided that if an employed person is employed by more than one employer on any day, his first employer on that day, subject to any regulations which may be made hereunder, shall be deemed to be the employer for the purposes of the provisions of this Act relating to the payment of contributions, and no further contribution shall be payable in respect of him by any other employer of that day.

(4) For the purposes of this Act, "earnings" include salary, wages and all other pecuniary remuneration, as well as personal and living expenses when these form part of the remuneration of the employed person; and regulations may be made hereunder prescribing the valuation at which any remuneration other than pecuniary remuneration is to be taken for the purposes of this section.

Several employers, liability of, for contribution.

Liability for "employer's contribution;" and that of employee

Right of employer to deduct from wages.

Proviso.

Recovery where wages received by employee from third person.

Where no wages, contribution by employer for both.

Power to Commission to regulate respecting contributions where person other than employer controls work.

Regulations respecting outworkers.

9. Where an employed person is employed by two or more than two employers under a joint agreement, then, notwithstanding any agreement between the employers for sharing the employer's contribution of that person, the said employers shall be jointly and severally liable as employer of that person as respects the provisions of this Act concerning any unpaid contribution of that person.

10. Except where regulations under this Act otherwise prescribe, the employer shall, in the first instance, pay both the contribution payable by himself (in this Act referred to as "the employer's contribution"), if any, and also on behalf of the employed person the contribution payable by that person.

11. (1) Where the employed person receives any wages or other pecuniary remuneration from the employer, the amount of any contribution paid by the employer on behalf of the employed person shall, notwithstanding the provisions of any Act or any contract to the contrary, be recoverable by means of deductions from the wages of that person or from any other pecuniary remuneration due from or payable by the employer to that person and not otherwise:

Provided that no such deduction may be made

- (a) from any wages or pecuniary remuneration other than such as are paid in respect of the period or part of the period for which the contribution is payable; or
- (b) in excess of the sum which represents the amount of the contributions for the period in respect of which the wages or other remuneration is paid.

(2) Where the employed person does not receive any wages or other pecuniary remuneration from the employer but receives such remuneration from some other person, the amount of any contribution paid by the employer on behalf of the employed person shall, without prejudice to any other means of recovery, be recoverable as a civil debt from the employed person, if proceedings for recovery are instituted within three months from the date on which the contribution was payable.

(3) Where the employed person is not paid wages or other pecuniary remuneration by his employer or any other person, the employer shall be liable to pay the contributions payable both by himself and the employed person and shall not be entitled to recover any part thereof from the employed person.

12. The Commission may by regulations made hereunder provide that in any case or class of cases where employed persons work under the general control and management of some person other than the immediate employer, that person shall, for the purposes of the provisions of this Act relating to the payment of contributions, be treated as the employer, and may provide for allowing him to deduct the amount of any contributions, other than employer's contributions, which he may become liable to pay from any sums payable by him to the immediate employer, and for enabling the immediate employer to recover from the employed persons the like sums and in the like manner as if he were liable to pay the contributions.

13. In the case of outworkers, regulations may be made with respect to any class or classes of work

- (a) defining "a unit of work" to mean the amount of work for which a stated sum is paid, or as otherwise provided in the regulations.
- (b) specifying the number of units of work which shall be deemed to constitute whole time work for any pay-period.
- (c) for any purpose deemed necessary to apply the provisions of this Act to outworkers.

Invalidity of contracts respecting deduction of employer's contribution from employee.

Deductions as trust moneys.

Arrears of employer's contributions as wages in bankruptcy.

Refund of contributions made by mistake.

Proviso.

Regulations providing for payment of contributions and arrears:

"health insurance stamps"

"health insurance books"
"health insurance cards."

Deductions for arrears of contributions.

Provision for contributions by employed contributor normally residing outside province; right of such person to elect residence in province to receive benefits for himself or to establish credit to pay for services obtained elsewhere.

14. Notwithstanding any contract to the contrary, the employer shall not be entitled to deduct from the wages of, or otherwise to recover from the employed person the employer's contribution.

15. (1) Any money deducted for the purposes of this Act by an employer from wages or other remuneration of an employee, shall thereupon be deemed to belong to the Commission and until received by the Commission, shall be deemed, as to the whole or any part thereof, to be held by the employer in trust for the Commission.

(2) In the event of the bankruptcy of the employer the Commission shall in respect of any unpaid contributions payable by him as employer's contributions be entitled to the same priority as is accorded wage-earners with respect to wages under the Bankruptcy Act.

16. The Commission may by regulation provide for the repayment to a person and to his employer of any contributions paid by them or either of them under the erroneous belief that the contributions were payable in respect of that person, subject, in the case of that person's contributions, to the deduction therefrom of the value of any health insurance benefit received by him to which he was erroneously deemed to be entitled by reason of the contributions so paid in respect of him and which he would not otherwise have received:

Provided that repayment of contributions may be made under this section only on an application therefor made in the prescribed manner and within the prescribed period which shall be not less than one year from the date on which the last of the contributions was paid.

17. The Commission may by regulation provide for

(a) the payment of contributions, and of contributions in arrears, by means of stamps (in this Act referred to as "health insurance stamps") affixed to or impressed upon books or cards (in this Act respectively referred to as "health insurance books" and "health insurance cards"), or otherwise, and such stamps or the devices for impressing the same, or other methods of payment, shall be prepared and issued in such manner as may be provided by the regulations; and

(b) the deduction from the earnings of an employed person by his employer of any arrears of contributions that person is liable to pay under any of the provisions of this Act, and the deduction thereof, shall be at such rate or rates per pay-period as may be prescribed, and the effects and consequences hereinbefore provided as respects deductions made from the earnings of an employed person for the contributions hereunder shall apply to deductions made for the payment of arrears of contributions.

18. (1) The contributions made hereunder by and on behalf of any employed contributor whose normal place of residence is outside the province shall, if a scheme of health insurance is in operation in the province or other jurisdiction where he has his normal place of residence, be paid from the Fund to the health insurance authority of such province or other jurisdiction, for the purpose of enabling him to derive benefit under that health insurance scheme, and if no such scheme is in operation, the employed contributor may, in manner prescribed, elect a place of residence in the province for the purpose of receiving, as far as may be practicable, the benefits of this Act for himself but not for any person dependent on him, and on failure to elect within the prescribed period, the contributions aforesaid shall be carried to a special account to the credit of the employed contributor and shall be available to him for the payment of any bill certified for payment by him for any medical or other services, whether rendered to himself or to any person whom he claims to be dependent upon him, being services to which a qualified person would be entitled under this Act.

Right of Commission to decide validity of bill.

Disposal of account on death of person.

Where employed person has dependent wife or husband.

Where employed person desires to contribute for other dependant.

Duty of commission to give instructions to employer in such cases.

Right of employed person to receive refund of or credit for excess contribution for dependants.

Right of Commission to make regulations for particular matters relating to payment and collection of contributions.

Sale of stamps.

Assessment determined from return.

"Equalized value" of real property in province; value of other property determined by regulations.

(2) The Commission may accept such evidence as to them may seem sufficient of the validity of any such bill and certification thereof as aforesaid for the purposes of this section.

(3) Any balance in any such account at the time of death of any such person shall form part of the estate of that person.

19. (1) Notwithstanding anything in this Act in any case where

- (a) it appears to the Commission that the wife or husband of an employed person is dependent on that person for support; or
- (b) an employed person advises the Commission in manner prescribed that he desires to pay by deduction from his earnings the contribution of any person dependent on him for support, not being a dependant as referred to in paragraph (a) hereof,

the Commission shall by notice entered in the employment book of the employed person, or otherwise as may be prescribed, instruct the employer of that person that for all purposes of contributions under this Act the contribution by and on behalf of that person shall be taken as the sum of the contribution of that person and of the aforesaid dependent person or persons but without any consequent increase in the employer's contribution on behalf of the employed person.

(2) If in any case on the assessment, as in this Act provided, of any such person it is found that the contribution paid by him for any period as an employed person in respect of any dependants as aforesaid exceeds the contributions determined in his case as an assessed contributor for those dependants, the said excess shall be repayable to him or may be applied to pay any contributions which he is liable to pay under this Act.

20. (1) Subject to the provisions of this Act, the Commission may make regulations providing for any matters relating to the payment and collection of contributions payable under this Act, and in particular for

- (a) specifying the manner, times, and conditions in, at and under which payments are to be made;
- (b) the entry in or upon health insurance books or cards of particulars of contributions paid in respect of the persons to whom the health insurance books or cards relate;
- (c) the issue, sale, custody, production, and surrender of health insurance books or cards and the replacement of health insurance books or cards which have been lost, destroyed, or defaced; and
- (d) the offering of reward for the return of a health insurance book or card which has been lost and for the recovery from the person responsible for the custody of the book or card at the time of its loss of any reward paid for the return thereof.

(2) The Commission may enter into an agreement with the Postmaster General of Canada, or such other person as may be prescribed, for the sale of stamps.

Assessment and Contribution of Assessed Contributors

21. (1) Subject to the provisions of this Act any person required to contribute under this Act otherwise than as an employed person shall be assessed for his contribution on the basis of information contained in the return required to be filed by him under this Act.

(2) The value of the real property of any such person, if such property is situate within the province, shall be taken at its value determined as hereinafter in this section provided, which value may be referred to as the "equalized value", and the value of the real property situate outside the province, and of all personal property required

to be valued for the purposes of this section, shall be taken at such value as may be determined in accordance with regulations made hereunder.

Method of determining equalized value.

(3) For the purposes of this Act the authority in charge of the administration or supervision of municipal affairs in the province, or such other authority as the Lieutenant-Governor in Council may name for the purpose, shall value from five to eight per cent of the different parcels of land in different parts of each local government area within the province and the total valuation placed upon the said parcels in any area shall be set against the total valuation placed upon those parcels by the assessors of the local government for that area, and the ratio of the total of the first valuation to the total of the second valuation shall be the factor by which the value of the real property of any such person, as determined by the assessors of the local government for that area, shall be multiplied for the purpose of determining the equalized value of that property.

Duration of use of same factors.

(4) The factors determined as aforesaid may be used for a period of five years without a redetermination.

Right to base factors on county or local values.

(5) In lieu of determining factors for the equalization of real property values as aforesaid, factors may, if found practicable, be based on the equalization of values made from time to time in the several counties or other local government areas within the province.

How income from such property determined.

22. (1) The value of the real and personal property of any such person determined in accordance with the provisions of the last preceding section of this Act, less the amount owing under any mortgage, lien or other charge outstanding against the said property, or against any of it, shall be deemed to yield an annual income to such person of such a rate per centum of the said value as may be prescribed from time to time.

How income from occupied real or personal property used in business determined.

(2) The value of any real or personal property occupied or used under lease or tenancy or otherwise by any such person for the purpose of his business, trade or occupation, shall be deemed to yield that person an annual income of such a rate per centum thereof as may be prescribed from time to time, and the said value shall be determined in accordance with the provisions of the last preceding section of this Act.

"Assessed income".

(3) As to any assessed person, the sum of his annual income determined in the manner described in the two preceding subsections of this section together with his income, if any, from all sources other than income from his real and personal property, may be referred to as his "assessed income".

Regulations to provide for fixing certain income in some cases.

(4) If by reason of the nature of the business, trade or occupation in which any such person is engaged, for the whole or for any part of the year, difficulty arises in ascertaining his income or earnings therefrom, other than the income from his property, then that person may, in accordance with regulations made hereunder, be deemed to have been in receipt of salary or wages appropriate to a person engaged in the same business, trade or occupation in like capacity on the basis of salary or wages, or the income or earnings of that person may otherwise be determined in accordance with regulations hereunder.

Appeal against assessment, regulations as to procedure, etc.

(5) An appeal shall lie against the assessment of any person, and regulations may be made hereunder prescribing the persons entitled to make appeals, the time and manner of making appeals, the constitution of the authority to hear and decide appeals, and the procedure at and concerning appeals.

"Maximum assessed income"; rules determining rates of contribution.

23. (1) If the assessed income of any person is equal to or greater than a prescribed maximum income (referred to in this Act as the "maximum assessed income"), the yearly rate of contribution which that person shall be liable to pay hereunder (a) for himself or (b) for any person dependent on him for support other than a child under the prescribed age, shall, subject to the provisions of this section, be the yearly rate

Schedule A.

Rates of contribution of person having less than maximum assessed income.

Contributions in cases of partial dependency.

Dependants, number to be considered.

Provision by regulation for determining contribution in other cases.

Demand for payment of contribution on assessment.

Demand for payment of contribution in other cases.

Proviso.

Regulations as to remedies and penalties; collection by municipality of overdue contributions.

Regulations for giving effect.

of contribution set forth in Schedule A to this Act, and that rate shall apply in either case for any part of the year for which he is required to make contribution as an assessed person.

(2) If the assessed income of any person is less than the maximum assessed income applicable in his case, the yearly rate of contribution payable by him (a) for himself, (b) for any such dependant, shall be the same proportion of the yearly rate of contribution set forth in Schedule A to this Act as his assessed income is of the said maximum assessed income, and, subject to the provisions of this section, the yearly rate of contribution so determined to be payable by him shall in either case apply for any part of the year for which he is required to make contribution as an assessed person, and the difference between the contribution he would be required to make were his assessed income equal to the said maximum and the contribution he is liable to make under this subsection shall in either case be payable on his behalf by the province.

(3) The yearly rate of contribution which an assessed person shall be liable to pay as aforesaid for any person who is partially dependent on him for support shall be the same proportion of the yearly rate of contribution determined as hereinbefore in this section provided as the proportion in which he contributes to the support of that dependant.

(4) In prescribing the maximum assessed income for the purposes of this section, account shall be taken of the number of dependants for whom the assessed person is liable to make contribution hereunder and of the proportion in which he contributes to the full support of those dependants.

(5) Regulations may be made hereunder prescribing the procedure to be followed in determining the contribution to be made by assessed contributors in any cases or class of cases which do not fall within the provisions of the preceding subsections of this section, and the said regulations shall be such as to harmonize as nearly as may be the assessment of persons thereunder with the assessment of persons under the said provisions.

24. (1) Except where it appears that any such person is an employed person at the date of registration, the Commission shall on completion of his assessment demand payment of him, within the prescribed period, of the yearly contribution payable by him.

(2) As soon as may be after the close of each insurance year, the Commission shall as to any person other than a person to whom the last preceding subsection of this section applies, demand payment of him, within the prescribed period, of the contribution, if any, which he is liable to pay under this Act, for himself and for any persons dependent on him: Provided that regulations may prescribe that the said contribution shall be determined in the case of any such person on the basis of his registration made for the said insurance year rather than on the basis of the registration made for the preceding year.

(3) Regulations made hereunder may prescribe remedies for collection and impose reasonable pecuniary penalties in the case of any person failing to pay within the prescribed period, any contribution for which he is liable; and, in particular, and without limiting the generality of the foregoing, such regulations may prescribe procedure for the collection by the authorities of any municipality in the province in which such person owns property of any kind or in which he is required to pay a business or other tax, of any contribution, and pecuniary penalties if any, together with a percentage addition to the contribution estimated to cover the costs of collection by such authorities.

25. All necessary regulations may be made hereunder for the purpose of giving effect to the intentions of the three last preceding sections.

Health Insurance Fund

Health Insurance Fund for receipt of moneys.

26. (1) There shall be a special account in the Consolidated Revenue Fund of the Province called the Health Insurance Fund (in this Act referred to as "The Fund"), to which the Provincial Treasurer shall from time to time credit

- (a) all moneys received from the sale of health insurance stamps and contributions paid otherwise than by means of such stamps;
- (b) penalties payable to the Fund;
- (c) all grants made to the province by the Government of Canada for the purposes of this Act;
- (d) any sums payable to the Fund out of the revenues of the Province under the terms of this Act or otherwise together with any other sums received on behalf of the Fund; and
- (e) interest earnings on any investments of the Fund.

Payments out of Fund by Provincial Treasurer.

(2) The Provincial Treasurer may, subject to the provisions of this Act and to any regulations made thereunder, on requisition of the Commission or its authorized officers, pay out of the Fund any sums which may properly be paid under this Act.

(3) Regulations may be made hereunder for the purpose of

- (a) authorizing the appointment of a committee, with powers defined by the regulations, to invest from time to time any part of the Fund not currently required for the purposes of this Act and to sell or exchange investments so made for other like investments; and
- (b) making effective the intentions of this section.

Benefits

Benefits of preventive diagnostic and curative character.

Kinds of benefits.

27. (1) Subject to the provisions of this Act and to any regulations made thereunder, the benefits conferred by this Act on qualified persons shall be such as to provide for the prevention of disease and for the application of all necessary diagnostic and curative procedures and treatment.

(2) For the purposes of this Act the benefits referred to in the last preceding subsection shall be administered under the following heads, namely,

- (a) Medical, surgical and obstetrical benefits.
- (b) Dental benefit.
- (c) Pharmaceutical benefit.
- (d) Hospital benefit.
- (e) Nursing benefit.

(3) The benefits referred to in the last preceding subsection shall include such special and technical procedures and ancillary services as may be prescribed and as may, in accordance with regulations made hereunder, be deemed necessary to make effective the said benefits in the case of any qualified person.

(4) Notwithstanding anything in this Act contained, if, on account of insufficient professional personnel, facilities or equipment, it is found to be not practicable, in an emergency or in any other circumstances, to provide any of the said benefits for all persons entitled thereto the said benefits shall, as far as may be practicable and in accordance with regulations made hereunder, be made available to such of the persons aforesaid as may at the time be most urgently in need thereof.

Medical, Surgical and Obstetrical Benefits

Arrangements with practitioners for carrying out plan.

28. (1) For the purpose of administering medical, surgical, and obstetrical benefit, the Commission shall, in accordance with regulations made hereunder, make arrangements therefor with practitioners in medicine, surgery, and obstetrics who are regularly qualified, duly licensed and in good standing in the province (in this Act referred

to as "Medical Practitioners" or "Medical Advisers" as the circumstances may require), including specialists and consultants in medical, surgical, and obstetrical diagnosis, treatment, and procedures.

Professional services to provide preventive and various kinds of curative measures.

Lists of practitioners with particulars of class of service available in each case.

Right of practitioner to be included in list.

Right of person to select practitioner.

Right of person to services of specialists and consultants.

Distribution among practitioners of persons who fail to select.

Medical practitioners for prevention of diseases and conservation of health.

No remuneration to practitioner who exceeds professional competence.

Remuneration of practitioners.

Necessity for keeping clinical records.

(2) The regulations and arrangements aforesaid shall be such as to secure that qualified persons shall, subject to the provisions of this Act, receive from medical practitioners with whom arrangements are so made all such adequate measures for the prevention of disease, and all such proper, necessary and adequate medical, surgical, and obstetrical treatment, attendance, and advice as may be prescribed, and the said regulations and arrangements shall, subject to such terms and limitations as may be included therein, be such as to secure

- (a) the preparation and publication of lists of medical practitioners who have agreed to attend, treat and advise qualified persons, and the class or classes of service each such practitioner is qualified and prepared to provide;
- (b) the right on the part of any medical practitioner as aforesaid who is desirous of being included in any such list of being so included on making application to that effect in the prescribed manner;
- (c) the right on the part of any qualified person, not being a child as hereinafter in this paragraph referred to, of selecting, at such times as may be prescribed, from the appropriate list the medical practitioner by whom he wishes himself to be attended, treated, and advised, and of selecting in like manner the medical practitioner by whom he wishes any qualified child under the prescribed age, of whom he has for the time being the care and control, to be attended, treated, and advised, and, subject in each case to the consent of the medical practitioner so selected, of being attended, treated, and advised by him;
- (d) the right on the part of any qualified person to the services of specialists and consultants, ordinarily after consultation with and on the recommendation of the medical adviser that person may have selected as aforesaid, and the right on the part of that person to select the specialist or consultant, subject to any regulations made in that behalf;
- (e) the distribution among the several medical practitioners whose names are on the lists, so far as practicable under arrangements made by them, of the qualified persons who after due notice have failed to make any selection or who have been refused by the medical practitioner whom they have selected;
- (f) the services of medical practitioners in the prevention of disease and in the conservation of health and physical fitness as provided in the arrangements aforesaid;
- (g) that, except in case of an emergency, no medical practitioner shall be entitled to remuneration from the Fund for any service rendered to any qualified person in the performance of which the medical practitioner exceeds his professional competence as shown by the lists aforesaid;
- (h) that the method or methods of remuneration of medical practitioners and the rate thereof, whether by capitation, by fees, or by salary, or by any combination thereof, or otherwise, shall be such as may be provided for in the arrangements aforesaid with medical practitioners and shall be subject to revision from time to time as may be provided for in the arrangements aforesaid; and
- (i) the keeping of adequate and satisfactory clinical records by medical practitioners as prescribed.

Arrangements with approved clinics.

(3) Arrangements with medical practitioners made under the provisions of this section may include arrangements with approved clinics, or groups of medical practitioners practising in co-operation, whereby qualified persons may select any such clinic or group of practitioners in lieu of selecting a medical practitioner as provided in this section.

Regulations for establishing classes of professional services, etc.

(4) Regulations shall prescribe

- (a) the rules and procedure to be followed in determining the class or classes of professional services, other than medical practitioner services, which is or are within the competence of each practitioner who is desirous of being included in any list as aforesaid; and
- (b) the classes of services which shall be deemed to be medical practitioner services, either for the province generally or for particular regions or areas thereof, with any modifications therein which may be necessary to meet special circumstances or special cases, or to meet the case of any medical practitioners who do not desire to supply all of the services aforesaid to qualified persons.

Dental Benefit

Arrangements with dentists for carrying out plan.

29. (1) For the purpose of administering dental benefit, the Commission shall, in accordance with regulations made hereunder, make arrangements with registered dental practitioners, including specialists in dentistry, for the purpose of carrying out the programme of dental services which may be established in accordance with the said regulations.

Necessary terms of programme.

(2) The terms of the programme aforesaid shall be such as to secure, subject to such terms and limitations as may be included therein,

- (a) that the services thereunder shall be in accordance with recognized professional standards for sound dentistry;
- (b) that the classes of persons entitled to benefit under the programme shall be not greater than can be served from time to time in accordance with the standards aforesaid by the dental practitioners with whom arrangements are made;
- (c) that the terms of the programme shall be such as to extend dental services in accordance with the standard aforesaid to all persons under health insurance as soon as that end may be practicable;
- (d) that, without limiting the generality of the powers conferred by this section, the programme may in the first instance be limited to persons not over a prescribed age, subject to advance in that age from time to time, having regard to the number of dental practitioners available for rendering the required services; and
- (e) that, for the effective and economic administration of the programme, persons entitled to benefit thereunder may, in accordance with regulations made in that behalf, be required to attend at prescribed times at the office of the dental practitioner selected by those persons, and be subject to a penalty as prescribed for non-attendance.

Attendance for services; penalty for failure.

(3) The arrangements made with dental practitioners as aforesaid shall be such as to secure, subject to such terms and limitations as may be included in regulations made in that behalf,

- (a) the preparation and publication of lists of dental practitioners who have agreed to treat and advise qualified persons, and the class or classes of service each such dental practitioner is qualified and prepared to provide;

Lists of practitioners.

Right of practitioner to be included in list.

Right of person to select practitioner.

Distribution among practitioners of persons who fail to select or have been refused by selected practitioner.

Right of person to services of specialist and consultant.

No remuneration to practitioner who exceeds professional competence.

Remuneration of practitioners.

Necessity for keeping clinical records.

Regulations for establishing classes of professional services, etc.

Arrangements for supplying drugs.

Except as to doctors and dentists, arrangements to be made only with registered pharmacists.

- (b) the right on the part of any registered dental practitioner who is desirous of being included in any such list as aforesaid of being so included on making application to that effect in the prescribed manner;
- (c) the right on the part of any qualified person, not being a child as hereinafter in this paragraph referred to, of selecting, at such times as may be prescribed, from the appropriate list the dental practitioner by whom he wishes himself to be treated and advised, and of selecting in like manner the practitioner by whom he wishes any child under the prescribed age, of whom he has for the time being the care and control, to be treated and advised, subject in each case to the consent of the dental practitioner so selected;
- (d) the distribution among the several dental practitioners whose names are on the lists, so far as practicable under arrangements made by them, of the persons entitled to services under the programme who after due notice have failed to make any selection, or who have been refused by the dental practitioner whom they have selected;
- (e) the right on the part of any qualified person to the services of specialists and consultants in dentistry as may be recommended from time to time by the dental practitioner that person may have selected as aforesaid, and the right of that person to select the specialist or consultant, subject to any regulations made in that behalf;
- (f) that, except in case of emergency, no dental practitioner shall be entitled to remuneration from the Fund for any service rendered to a qualified person in which he exceeds his professional competence as shown by the list aforesaid;
- (g) that the method or methods of remuneration of dental practitioners and the rate thereof, whether by capitation, by fees or by salary, or any combination thereof, or otherwise, shall be such as may be provided for in the arrangements aforesaid with dental practitioners and shall be subject to revision from time to time as may be provided for in the regulations; and
- (h) the keeping of clinical records by dental practitioners as prescribed.

- (4) Regulations shall prescribe the rules and procedure to be followed in determining the class or classes of professional services, other than general dental services, which is or are within the competence of each dental practitioner who is desirous of being included in any list as aforesaid.

Pharmaceutical Benefit

30. (1) For the purpose of administering pharmaceutical benefit, the Commission shall, in accordance with regulations made hereunder, make arrangements for the supply of proper and sufficient drugs, medicines, materials, and appliances to qualified persons, and the regulations and arrangements aforesaid shall be such as to enable qualified persons to obtain such drugs, medicines, and appliances, if ordered by the practitioner by whom the qualified persons are attended, from any persons with whom arrangements have been made, and shall be such as to secure, subject to such terms and limitations as may be included therein,

- (a) that, except to the extent to which medical practitioners and dental practitioners may, in accordance with the arrangements made with them, be required to supply such drugs, medicines, and appliances for immediate use or in emergencies or in remote areas, arrangements shall be made only with retail pharmacists (including chemists and druggists) registered in the province;

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| Lists of pharmacists. | (b) that lists of pharmacists with whom arrangements have been made as aforesaid shall be prepared and published; |
| Right of pharmacist to be included in list. | (c) that any pharmacist registered in the province desirous of being included in any such list as aforesaid shall be so included on making application therefor in the prescribed manner; |
| Right of person to select pharmacist. | (d) that the person for whose benefit an order for any drug, medicine, material, or appliance is given shall have the right to select the pharmacist by whom the order shall be filled; |
| Written order for drugs and reference to previous order. | (e) that except as may otherwise be prescribed, a pharmacist shall not supply drugs, medicines, materials, or appliances if the order therefor is written in such manner as to necessitate reference on the part of the pharmacist to a previous order; and |
| Prices of drugs according to tariff. | (f) that orders for drugs, medicines, materials, and appliances supplied shall be priced by a central board, bureau or committee for the whole province in accordance with a tariff agreed upon between the Commission and associations representative of pharmacists, and in accordance with regulations made in that behalf. |
| Drug formulary. | (2) Regulations may be made hereunder from time to time authorizing a provincial drug formulary for the purpose of this Act. |
| Hospital Benefit | |
| Arrangements for treatment in hospitals. | 31. (1) For the purpose of administering hospital benefit, the Commission shall, in accordance with regulations made hereunder, make arrangements for all necessary treatment of qualified persons in hospitals (including convalescent homes), other than treatment for tuberculosis or mental illnesses, and the regulations aforesaid shall be such as to secure, subject to such terms and limitations as may be included therein, |
| List of hospitals with services available. | (a) the preparation, and publication as may be prescribed, of lists of hospitals with which arrangements as aforesaid have been made, showing in the said lists the classes of services and treatment each such hospital is capable of providing and authorized to provide under the said arrangements; |
| Classes of hospitals which may be used. | (b) that, except as may otherwise be prescribed, arrangements shall be made only with hospitals known as (i) "non-profit voluntary hospitals", (ii) municipal hospitals, (iii) provincial government hospitals and (iv) Dominion Government hospitals, and that the said hospitals shall, subject to the classification thereof as provided in paragraph (a) hereof, be on an equal footing under the said arrangements; |
| Hospital treatment on order of medical practitioner. | (c) that a qualified person shall be entitled to treatment as aforesaid only when the treatment is ordered by the medical practitioner by whom the qualified person is attended; |
| Right of person to select hospital. | (d) that any person for whom treatment is ordered as aforesaid shall have the right of selection of the hospital from among the hospitals capable of providing the treatment and services required; |
| Right of hospital respecting medical practitioners treating patients. | (e) that the governing body of each hospital shall have the right to determine the medical practitioners who shall have the right of treating patients therein; |
| Compensation of hospitals. | (f) that the compensation of hospitals shall be
(i) a basic rate for general care together with provision for diagnostic and therapeutic procedures, not provided under general care, at such tariff as may be prescribed, or |

General Ward service only except as may be provided by regulations in certain cases.

Private and semi-private ward service as extra payable by qualified person.

Persons available for clinical observation.

Defining of responsibility of hospital regarding divulgence of clinical data.

How hospital rates determined.

Remuneration of staff in "closed wards".

Regulations for establishing classes of services respecting hospitals.

Arrangements for nursing benefits.

Registered nurses.

- (ii) an inclusive rate for general care as aforesaid including such diagnostic and therapeutic procedures as may be prescribed, together with provision for other special diagnostic and therapeutic procedures at such tariff as may be prescribed, or
- (iii) on such other basis as may be prescribed.
- (g) that in any case the arrangements aforesaid shall provide for general ward service only, and that semi-private and private ward service shall not be available as a part of the hospital benefit unless in any particular case semi-private or private ward service is determined, in accordance with regulations made in that behalf, to be essential to the welfare of the patient, and that in any such case the differences in charges shall be payable from the Fund to the hospital;
- (h) that any qualified person in receipt of treatment under arrangements as referred to in paragraphs (f) and (g) of this subsection shall have the right to semi-private or private ward service, if available, on payment by that person to the hospital of the difference in the charges therefor;
- (i) that any qualified person in receipt of treatment as aforesaid, except as described in paragraph (h) of this subsection, shall be available for clinical observation by the teaching staff of medical schools and hospitals for the better instruction of students in medicine and nursing pursuant to regulations and arrangements made in that behalf; and
- (j) that the legal responsibilities of the hospital and of its personnel concerning the divulgence of clinical data as respects any qualified person who has received treatment as aforesaid shall be defined.

(2) In making arrangements with hospitals in accordance with the provisions of paragraph (f) of subsection one of this section, basic rates for general care may, in manner prescribed, be determined for each hospital having regard for local costs and the facilities and services afforded by the hospital, and in the case of hospitals known as "teaching hospitals", the arrangements may provide compensation, in the rates and tariffs aforesaid or otherwise as may be prescribed, for the teaching facilities afforded in each such hospital, including such compensation as may be prescribed for the purpose of enabling each such hospital to make effective the objects of paragraph (i) of subsection one of this section.

(3) In the case of hospitals having what is known as "closed wards", whether for teaching purposes or otherwise, the medical staff in such hospitals shall receive such remuneration as may be prescribed for attendance, treatment, and advice in respect of qualified persons admitted to such wards.

(4) Regulations may prescribe the rules and procedure to be followed in determining the classes of services and treatment each hospital is capable of providing and authorized to provide and for determining what shall constitute general care in any case, or the regulations may constitute an authority or name an authority for determining the matters aforesaid or any of them.

Nursing Benefit

32. (1) For the purpose of administering nursing benefit, the Commission shall, in accordance with regulations made hereunder, make arrangements for providing necessary nursing services for qualified persons and for the effective and economic administration of those services.

(2) The regulations aforesaid shall be such as to secure, subject to such terms and limitations as may be included therein,

- (a) that the arrangements aforesaid shall be made through organizations which are representative of registered nurses, and may provide that, in special circumstances or for limited or special duties or purposes,

Nursing services by other persons; lists of such persons.

Nursing services only when ordered by practitioner.

Use of local organizations and regard for special attributes of nurses on being assigned.

Conditions relating to services of nurses subject to revision.

Maintenance of standards.

After benefits available, survey of conditions in region; contents of report to Commission.

Preliminary report by committee.

Power of Commission to direct survey and report before benefits available.

Duty of Commission on receipt of reports.

Power of Commission to vary or modify arrangements respecting particular area or substitute scheme.

nursing services may be supplied by persons with such training and experience in nursing as may be prescribed although falling short of the training and experience necessary for registration as a nurse, and that the names of all such persons shall be entered in lists as may be prescribed showing the classes of duties or services which may be provided by them as aforesaid, and such lists shall be available as prescribed for the purposes of this Act.

- (b) that nursing services shall only be available when ordered by the practitioner by whom the qualified person is attended;
- (c) that, as far as may be practicable, nursing service in each local area shall be provided through the local organizations which are representative of registered nurses, and that regard shall be had for the general qualifications, special training and experience, general ability and personality in assigning persons to render nursing services whenever ordered;
- (d) that the conditions of service, the hours of work, the methods and rate of remuneration of persons, who may be employed to render nursing services for the purposes of this Act, shall be subject to reconsideration and revision from time to time;
- (e) that the accepted standards of nursing training and nursing services which may be from time to time recognized as satisfactory shall be maintained.

Special Provisions as to Benefits

33. (1) (a) As soon as may be after benefits become available to qualified persons under this Act, and thereafter whenever it may seem desirable so to do, or at the direction of the Commission, the committee empowered thereunto in each region, shall, after making a complete survey of the conditions throughout the region, or such survey as may be directed by the Commission concerning the administration of the benefits of this Act, the availability of professional personnel, and the facilities for administering the said benefits, prepare a report for the Commission describing the conditions prevailing in particular areas throughout the region as respects the provisions of this Act and, where deemed necessary, containing therein a scheme or schemes for improving in practical ways the administration of the benefits aforesaid and for making those benefits as readily available as may reasonably be practicable to persons living in all parts of the region, and the report shall show in order of urgency, the several recommendations and the estimated cost thereof:
- (b) With a view to expedition the committee may in a preliminary report make recommendations for forthwith improving the general practitioner services and nursing services in any localities not being properly served or not likely to be properly served in respect of those services:
 - (c) The Commission may direct that such a survey and report be made concerning any region before benefits become available under this Act.

(2) The Commission shall consider any reports so made and, after making such additional inquiries and investigations as may seem necessary or desirable, shall, subject to the provisions of the next following subsection, put into effect such a programme as may for the time being be deemed practicable and advisable for making available the benefits of this Act to qualified persons throughout the province.

(3) If, as respects any particular area, in the opinion of the Commission, it is not reasonably practicable to administer satisfactorily any one or more than one of

the benefits of this Act under the general arrangements made for administration thereof, the Commission may by regulation made hereunder

- (a) make other arrangements for the administration of benefits in that area; or
- (b) put into operation such modification of the scheme of benefits of the Act as may be practicable for that area; or
- (c) put into operation such alternative scheme of health insurance benefits or services and arrangements for administration thereof as may be deemed appropriate and in the best interests of persons in the area.

Power to recover cost of treatment under this Act as respects persons entitled to similar benefits under Workmen's Compensation Act or otherwise.

34. (1) If, in respect of any injury, sickness or disease, any person has received any benefits under the provisions of this Act and

- (a) in respect of that injury, sickness or disease, has recovered, or is entitled to recover, under the Workmen's Compensation Act or under any other Act or otherwise, any compensation or damages on account of any treatment or attendance, or on account of the supply of any medicine, drugs, materials or appliances, being benefits or any of them received by him as aforesaid, or
- (b) is entitled to receive under any Act as mentioned under paragraph (a) hereof, or otherwise, the benefits, or any part thereof, which he in fact received as aforesaid under this Act, then, there shall be payable to the Fund by that person, if he has recovered compensation or damages as aforesaid, or by the authority or person liable to pay any such un-recovered compensation or damages or who is liable to provide the services, materials and appliances mentioned in paragraph (b) of this section, an amount up to the cost of the benefits received by that person as aforesaid under this Act but not exceeding the amount of the compensation or damages aforesaid or the cost of the benefit mentioned in paragraph (b) of this section received by that person.

(2) If the benefits, or any of them, received by any such person under this Act as aforesaid did not involve a direct payment from the Fund, the cost thereof shall, for the purposes of this section, be determined having regard for the services rendered and in accordance with regulations made hereunder.

(3) Any amount due to the Fund under the provisions of this section shall be recoverable as a debt due to the Crown from the person or authority liable to pay the same as above provided.

Administration by Commission

Establishment of Health Insurance Commission.

Chairman, qualifications of.

Provincial Health Officer a member.

Other members how determined for appointment.

35. (1) This Act shall be administered by a Commission to be called "The Health Insurance Commission" (in this Act referred to as "the Commission"), which shall consist of a Chairman and of such number of other commissioners as may from time to time be determined by Order of the Lieutenant-Governor in Council.

(2) The Chairman of the Commission shall be a doctor of medicine, regularly qualified, duly licensed and in good standing in the province, and having practised medicine for at least ten years, and shall be appointed by the Lieutenant-Governor in Council.

(3) The Provincial Health Officer shall, *ex officio*, be a member of the Commission.

(4) The commissioners, except the Chairman, shall as to such number thereof as may from time to time be determined by the Lieutenant-Governor in Council, be appointed by the Lieutenant-Governor in Council after consultation with organizations representative of medical practitioners, dental practitioners, pharmacists, hospitals, nurses, insured persons, industrial workers, employers, agriculturists, and

of such other groups or classes as may from time to time be determined by order of the Lieutenant-Governor in Council, provided that at least one commissioner shall be appointed in respect of each of the professions, hospitals, and each of the remaining classes or groups aforesaid.

(5) In default of organizations representative of insured persons, the Lieutenant-Governor in Council may appoint a commissioner or commissioners, chosen in such manner as the Lieutenant-Governor in Council may by order determine, who shall be deemed to have been chosen after consultation with organizations representative of insured persons.

(6) The Chairman of the Commission shall hold office for such period as may be determined by the Lieutenant-Governor in Council but not exceeding 10 years, and each of the other commissioners appointed by the Lieutenant-Governor in Council shall hold office for a period of 2, 4, or 6 years, as may be determined in each case in the order appointing the commissioner, but the term of office of the several commissioners first appointed hereunder shall be so determined that, as nearly as may be, an equal number of them shall complete their term of office at the end of each of the periods aforesaid, and thereafter appointments to the Commission, other than to the office of Chairman, shall be for a term of six years.

(7) The office of any commissioner appointed hereunder shall become vacant for cause, or for permanent incapacity, or upon his attaining the age of 70 years.

(8) A commissioner upon expiration of his term of office, if under 70 years of age, shall be eligible for re-appointment.

36. (1) The Chairman of the Commission shall be the chief executive officer of the Commission and shall, in accordance with the provisions of this Act, of the regulations made hereunder, and of the directions laid down from time to time by the Commission, have supervision over, and direction of, the work of the Commission and of the officers appointed for the purpose of carrying out the work of the Commission.

(2) The Chairman shall receive such salary as the Lieutenant-Governor in Council shall prescribe, and he shall devote his whole time to the work of the Commission.

(3) The Chairman shall reside in the City of or within ten miles thereof.

37. No member of the Commission, with the exception of the Chairman, shall receive any salary but each shall receive such remuneration and travelling expenses in connection with the work of the Commission as may be approved by the Lieutenant-Governor in Council.

38. (1) The Commission shall meet at least twice each year in the City of on such days as may be fixed by the Commission, and may also meet at such other times in that city or elsewhere as the Commission may deem necessary.

(2) Regulations made hereunder shall establish

(a) the procedure to be followed in calling meetings, and at meetings, of the Commission, and

(b) the number of commissioners who shall form a quorum at any meeting.

(3) Subject to the terms of the said regulations, the Commission may make by-laws for the conduct of the business of the Commission, and may provide for giving assent or dissent in writing by mail to any matters submitted in writing by mail to the commissioners.

39. (1) The Commission shall be a body corporate having capacity to contract and to sue and to be sued in the name of the Commission.

(2) The Commission shall have power, for the purposes of this Act, to acquire, hold and dispose of personal property, and with the approval of the Lieutenant-Governor in Council real property.

Appointments where no organizations representative of insured persons.

Tenure of office of chairman and other commissioners.

Vacancy of office for cause, incapacity, or age.

Eligibility for re-appointment of commissioner.

Chairman, duties as chief executive of supervision and direction.

Salary of chairman; full time employment.

Residence of Chairman.

Remuneration and travelling expenses of commissioners.

Meetings of Commission, times and places.

Regulations establishing procedure and quorum at meetings.

Power to make by-laws respecting conduct of business and disposition of matters submitted by mail.

Commission a corporation.

Power to acquire, hold and dispose of property.

Head Office.

Employees of Commission,
appointment of under Civil
Service Act.

Appointment of skilled and
professional personnel after
consultation with appropriate
organizations.

Costs of administration.

Province divided into
Public Health Regions and
Health Insurance Regions.

Unified administration of
public health and health
insurance.

Factors to be considered in
establishing region.

Determination of boundaries
of regions by provincial,
municipal authority in
consultation with public
health authority and
commission.

(3) The Head Office of the Commission shall be in the City of

40. (1) Such officers, inspectors, clerks and other employees as are necessary for the proper conduct of the business of the Commission whether at the Head Office of the Commission or elsewhere, shall be appointed and employed in manner authorized by the Civil Service Act of the Province.

(2) In addition to compliance with all other requirements for the purpose of securing the appointment of fit and proper persons as officers, clerks and employees, any person appointed to any executive, administrative or other position requiring professional training and experience in medicine, in dentistry, in pharmacy, in hospital work, or in nursing, shall be chosen after consultation with organizations representative, respectively, of medical practitioners, of dentists, of pharmacists, of hospitals, or of registered nurses, as may be appropriate for the purpose of determining his fitness to discharge the duties and responsibilities of the position.

41. Except as otherwise provided in this Act the costs of administration of this Act, including the remuneration of the Chairman, officers, clerks and employees, shall be paid out of moneys provided by the Legislature.

Administrative Regions

42. (1) For the economic and effective administration of public health services and of health insurance, the province shall be divided into areas to be known, for public health purposes, as "Public Health Regions" and, for health insurance purposes as "Health Insurance Regions".

(2) Within each such region there shall be established a unified administration of all public health services under the public health authority of the province, and of health insurance under the Commission, with such provision for co-operation between the administrations aforesaid in each region as may be deemed necessary and advisable in the interests of public health.

(3) Before settling upon the areas to be included in any region, consideration shall be given to

- (a) the boundaries of the local government areas and of the school district areas;
- (b) the provision already made for public health services by the authorities within such areas;
- (c) the sufficiency of the population within any proposed region for the economic development of adequate public health services;
- (d) the natural sources of water supply and the drainage needs, both immediate and prospective;
- (e) the lines of communication to and within each proposed region;
- (f) the hospital facilities and the location thereof within each proposed region and adjoining regions;
- (g) the relation of each proposed region with adjoining regions and the regions as a whole; and
- (h) all other factors deemed to have a bearing on the determination of suitable regions for the purposes aforesaid.

(4) Subject to the provisions of this section, the boundaries of the regions shall be settled upon by the authority of the province charged with the administration or supervision of municipal affairs, or by such other authority as may be designated by the Lieutenant-Governor in Council for that purpose, in consultation with the public health authority of the province and the Commission.

Proceedings for effecting utilization of existing facilities.

Arbitration in case of objection.

Composition of arbitration body; finality of decision.

Re-examination of scheme at instance of health authorities and periodically at instance of local authority.

Regulations for making effective this section.

Regional and Divisional offices.

Regional Medical Officers.

Employment and remuneration.

(5) The said authorities and the Commission in consultation with representatives chosen by the local governments within any region, or proposed region, shall prepare a scheme for the apportionment among the several local governments within the region of that part of the costs of the public health services not otherwise provided for, and for the utilization for public health purposes within the region of the public health facilities and personnel of the local governments within the region, and shall submit the said scheme to the said local governments for consideration.

(6) In case any such local government files objection to the scheme with the said authorities and the Commission within days after a copy of the scheme is delivered to the clerk of the local government, the scheme shall be submitted to arbitration for revision or for confirmation.

(7) The arbitrators shall consist of two representatives chosen by each of the authorities aforesaid, the Commission and two representatives of each local government within the area, together with a chairman chosen by the Lieutenant-Governor in Council, and the decision of a majority of the arbitrators shall be final.

(8) The scheme for the apportionment of costs may be re-examined and a new scheme prepared as aforesaid by the said authorities at any time at the instance of the public health authority, or at the end of each five-year period at the instance of any local government within the region, subject to arbitration proceedings as aforesaid;

(9) The Commission may make all regulations necessary to make effective the intentions of this section and the provisions aforesaid shall be subject to the terms and provisions of those regulations.

43. (1) The Commission shall establish an office (to be called a Regional Office) within each Health Insurance Region and may divide any region into such number of divisions (each with an office to be called a Divisional Office), as may be deemed necessary for the purposes of this Act.

(2) The Divisional officers in any region shall be under the general control, supervision and direction of the regional office.

(3) The organization, duties and responsibilities of each divisional office shall be as prescribed.

44. (1) In addition to the officers and staff which may be established in any region, there shall be in each region an officer of the Commission to be known as the Regional Medical Officer and such number of Assistant Regional Medical Officers as the Commission may from time to time determine to be necessary for the purposes of this Act.

(2) Regional Medical Officers and Assistant Regional Medical Officers may be employed on a full-time or part-time basis as the circumstances in each region may require, and their salaries shall be paid out of the Fund.

(3) Subject to any regulations made hereunder, the duties and responsibilities of the Regional Medical Officer shall be

- (a) to advise practitioners in the discharge of their duties under this Act;
- (b) to keep in touch with practitioners with the object of raising the standards of service under the Act;
- (c) to examine and satisfy himself of the accuracy and sufficiency of the clinical and other records of practitioners;
- (d) to investigate any case of alleged excessive prescribing of drugs, medicines or appliances by any practitioner; and
- (e) to perform such other duties and to assume such further responsibilities as may be prescribed.

Representative Committees

Committees representative of hospitals and of the professions supplying benefits.

Power of Commission to secure election of committee or appoint one.

Recognition by Commission of specially appointed committee of profession organized by statute.

Application to dentists and pharmacists only.

Power of Commission to recognize, secure election of or appoint regional committee.

General consultative, advisory, administrative, or executive committees or councils.

Determination of questions concerning the rights of persons.

45. (1) For the purposes of consultation concerning the terms of any regulations made or to be made under sections 28 to 32 inclusive hereof, and the making of the arrangements referred to in those sections with hospitals, or with the members of any profession, for supplying benefits under this Act, the Commission may recognize any committee which satisfies the Commission that it is representative of hospitals, or of the members of any of the said professions, and authorized or constituted to promote and safeguard the interests of hospitals, or of the members of any of the said professions, as the case may be, concerning the operations of this Act, and upon being so recognized the said committee shall be deemed to be a committee appointed for the purposes mentioned in this subsection.

(2) If at any time the Commission is not satisfied concerning the matters aforesaid as to any committee, or in default of such a committee with respect to hospitals or the members of any profession as the case may be, the Commission shall in manner prescribed secure the election of a Committee or, on failure so to do, appoint a Committee for the purposes mentioned in the last preceding subsection.

(3) Notwithstanding anything hereinbefore in this section contained, and subject to the next following subsection, if the members of any profession are organized by virtue of a statute of the province applicable to the members of that profession, then the executive body of that organization, under whatever title that body may be styled, shall have power to appoint a committee for the purposes mentioned in subsection one of this section, from the members of that organization, including the members of the said executive body, and the Commission shall, subject to the receipt of evidence of the said appointment, recognize the committee so appointed for such purposes.

(4) Unless otherwise prescribed the provisions of the last preceding subsection shall apply only to the members of the dental profession and of the pharmaceutical professions.

(5) Where the interests of the hospitals, or of the members of any of the aforesaid professions, in a particular region or area are concerned, rather than for the province as a whole, the Commission, in consultation with the relevant committee for the province as a whole, may in manner prescribed, recognize, secure the election of, or appoint, as the circumstances may require, a committee in that region or area for the purposes mentioned in subsection one of this section.

46. (1) In addition to the powers elsewhere in this Act conferred upon the Commission to establish committees for the purposes of this Act, by regulation made hereunder the Commission may in any region or area, or for the province as a whole, establish such committees, councils, or other bodies or instrumentalities, as may be deemed advisable, for consultative, advisory, administrative or executive purposes or for the purpose of securing effective co-operation in the administration of this Act and of any other Act concerned with the conservation of health or with public welfare.

(2) The constitution, duties, powers, and procedure of each such committee, council, or other body or instrumentality shall be as prescribed in the regulations.

Determination of Questions

47. (1) If any question arises

- (a) whether any employment or any class of employment is or will be such employment as to make the person engaged therein an employed person or whether a person is or was an employed person; or
- (b) as to who is or was the employer of any employed person; or
- (c) as to the rate of contribution payable under or in pursuance of this Act by or in respect of any employed person or class of employed persons

Appeal from decision of Commission.

Power to apply to court for opinion, advice, or direction on law.

Power to require attendance and evidence of witness and production of documents.

Penalty on person for failure to attend, give evidence, etc.

Power to revise decisions.

Rules regulating appeals.

Right of Commission to be represented and heard on appeal.

Regulations for procedure as to investigation of complaints and disputes.

or as to the rates of contribution payable in respect of any person by the employer and that person respectively; or

(d) as to the contribution payable by an assessed contributor for himself or for any person for whom he is required to make contribution; or

(e) as to the right of any person to receive a benefit;

the question shall be determined by the Commission, or by a person appointed by the Commission for that purpose, in accordance with regulations made in that behalf.

(2) If any person is aggrieved by a decision made as hereinbefore in this section provided on any question arising under paragraph (a) or paragraph (d) or paragraph (e) of the preceding subsection of this section, he may appeal in the prescribed manner on a question of law to a judge in chambers, and the decision of that judge shall be final.

(3) The Commission may, on motion, apply to the Supreme Court of the province for the opinion, advice, or direction of the Court on any question of law relating to the operation of this Act.

(4) Any person appointed in accordance with the regulations made under this section for the purpose of holding an inquiry and reporting to the Commission may by summons require any person to attend, at such time and place as is set forth in the summons, to give evidence or to produce any documents in his custody or under his control which relate to the question to be determined, and may take evidence on oath and for that purpose administer oaths: Provided that no person shall be required, in obedience to such summons, to go more than ten miles from his place of residence unless the necessary expenses of his attendance are paid or tendered to him.

(5) Every person who refuses or wilfully neglects to attend in obedience to a summons issued under this section or to give evidence, or who refuses to produce any book or document which he may be required to produce for the purposes of this section, shall be liable on summary conviction to a fine not exceeding twenty-five dollars.

(6) The Commission may, on new facts being brought to their notice, revise any decision given by them under this section other than a decision against which an appeal is pending or in respect of which the time for appeal has not expired; and an appeal shall lie against any such revised decision in the same manner as against an original decision.

(7) Provision may be made by rules of the Court for regulating appeals under this section, and those rules shall provide for limiting the time within which an appeal under this section may be brought, and for the determining in a summary manner of any such appeals and for requiring notice of any such appeal to be given to the Commission.

(8) The Commission shall be entitled to be represented and to be heard on any appeal under this section.

Investigations of Complaints and Disputes; Appeals

48. (1) Regulations may be made hereunder prescribing the manner in which complaints or disputes may be filed with the Commission for investigation as hereinafter in this section provided;

(2) For the purpose of investigating any complaint made by

(a) any person who is or was, or who claims to be or to have been, a qualified person, or on behalf of any such person, against

(i) any person, or hospital, concerned in supplying any benefit or service to qualified persons, or

(ii) the Commission or any officer or person acting on behalf of the Commission; or

- (b) any person, or hospital, concerned in supplying any benefit or service to qualified persons, against
 - (i) any other such person or hospital, or
 - (ii) any person who is or was a qualified person, or
 - (iii) the Commission or any officer or person acting on behalf of the Commission; or
- (c) the Commission against
 - (i) any person who is a qualified person, or
 - (ii) any person, or hospital, concerned in supplying any benefit or service to qualified persons;

Power to establish committees to investigate disputes.

Reference of complaints and disputes to committee

Composition of committee.

Regulations for prescribing cases to be settled on findings of committee: classes of cases which may be appealed.

Proviso

Appeal Committee, composition of, and effect of recommendations thereof.

and also for the purpose of investigating a dispute between any of the parties aforesaid, the Commission shall by regulation made hereunder establish such committees, whether for the province as a whole or for regions or areas, as may seem desirable, and the constitution, duties, powers, and procedure of each such committee shall be as prescribed in the regulations.

(3) In any case in which

- (a) a person who is or was, or who claims to be or to have been a qualified person, or a person on behalf of any such person, or
- (b) a person with whom arrangements have been made under the provisions of this Act for supplying any benefits or service to qualified persons, or
- (c) a hospital, or
- (d) the Commission,

is concerned in a complaint or is a party to a dispute, the regulations aforesaid shall provide that the complaint or the dispute shall be referred to a committee which shall, apart from the Chairman, be composed of members chosen in manner prescribed in equal numbers from, respectively,

- (i) qualified persons, if a qualified person is concerned in the complaint or is a party to the dispute;
- (ii) the members of the profession of the person referred to in paragraph (b) of this subsection, if any such person is concerned in the complaint or is a party to the dispute;
- (iii) a panel of persons named as prescribed for the purposes of this section as respects hospitals, if a hospital is concerned in the complaint or is a party to the dispute;
- (iv) a panel of persons named as prescribed for the purposes of this section as respects the Commission, if the Commission is concerned in the complaint or is a party to the dispute.

(4) The regulations shall prescribe the classes of cases which may be settled by the Commission on the basis of the findings and recommendation of the committee to which the dispute or complaint is referred for investigation and the classes of cases in which an appeal may be made from the findings of the committee and the nature of the appeal: Provided that provision for appeal shall be made in all cases where the right of any person, or hospital, to continue to supply any benefit or services under this Act is in question.

(5) The regulations shall provide that all appeals referred to in the proviso to the last preceding subsection shall be referred by the Commission to an appeal committee consisting of a barrister at law or a solicitor and at least two persons, selected as prescribed by regulation, from the profession of the person concerned or from representatives of hospitals, as the case may be, and the Commission shall, in manner prescribed, give effect to the recommendations of that committee.

(6) For the purpose of consultation concerning the terms of regulations made or to be made under this section, the relevant provisions of section 45 of this Act shall apply.

(7) For the purposes of setting up a committee under this section, "committee" may include a subcommittee of a committee established under this Act.

Inspection

Powers of the Inspectors.

49. (1) Any person authorized by the Commission to act as an inspector shall, for the purpose of the execution of this Act, have power to do all or any of the following things

- (a) to enter at all reasonable times any premises or place, other than a private dwelling house not being a workshop, where he has reasonable grounds for supposing that any insured persons are employed.
- (b) to make such examination and inquiry as may be necessary for ascertaining whether the provisions of this Act are complied with in any such premises or place.
- (c) to examine orally, either alone or in the presence of any other person, as he thinks fit, with respect to any matters under this Act, every person whom he finds in any such premises or place, or whom he has reasonable cause to believe to be or to have been an employed person, and to require every such person to be so examined, and to sign a declaration of the truth of the matters in respect of which he is so examined.
- (d) to exercise such other powers as may be necessary and prescribed for carrying this Act into effect.

Occupier to furnish information to inspector and produce books.

(2) The occupier of any such premises or place and any other person employing any employed person, and the servants and agents of any such occupier or other person and any such employed person shall furnish to any inspector all such information and shall produce for inspection all such registers, books, cards, wage sheets, records of wages and other documents as the inspector may reasonably require.

(3) Where any such premises or place is liable to be inspected by inspectors or other officers of, or is under the control of, some other branch or department of the government of the province or of some other province or of the Government of Canada, the Commission may make arrangements with the authority in control of the inspection, or in control of any branch or department, as aforesaid, for the carrying out of any of the powers and duties of inspectors under this section by inspectors or other officers of the authority aforesaid, and where such an arrangement is made, those inspectors and officers shall have all the powers of an inspector under this section.

(4) Every inspector shall be furnished with the prescribed certificate of his appointment, and on applying for admission to any premises or place for the purpose of this Act shall, if so required, produce the said certificate to the occupier.

(5) If any person wilfully delays or obstructs an inspector in the exercise of any power under this section or fails to give such information or to produce such documents as required in this section, or conceals or prevents or attempts to conceal or prevent any person from appearing before or being examined by an inspector, he shall be guilty of an offence against this Act and liable on summary conviction to a fine not exceeding twenty-five dollars.

(6) No person shall be required under this section to answer any question or give any evidence tending to incriminate himself.

Offences, Legal Proceedings, etc.

Incriminating questions.

Penalty for false representation.

50. If for the purpose of obtaining any benefit or payment under this Act, either for himself or for any other person, or for the purpose of avoiding any payment to be made by himself under this Act, or enabling any other person to avoid any such payment, any person knowingly makes any false statement or false representation, he shall be guilty of an offence against this Act and liable on summary conviction to imprisonment for a term not exceeding three months, with or without hard labour.

Penalty for contravention or non-compliance.

51. (1) If any employer or employed person or any other person contravenes or fails to comply with any of the requirements of this Act or the regulations made thereunder in respect of which no penalty is provided, or if any employer deducts or attempts to deduct from the wages or other remuneration of an employed person the whole or any part of the employer's contribution, or fails or neglects to pay as required by this Act any contribution for which he is liable under this Act, he shall be guilty of an offence against this Act and for each such offence, be liable on summary conviction, to a fine not exceeding two hundred and fifty dollars, or to imprisonment for a period not exceeding three months, or to both fine and imprisonment:

Provided that in any case where an employer is convicted of the offence of failing or neglecting to pay a contribution there shall be imposed on him, in addition to the aforesaid penalty, a further penalty equal to the amount of the contribution which he has failed or neglected to pay, which additional penalty shall be paid over to the Health Insurance Fund.

(2) In any case where an employer is convicted of the offence of failing or neglecting to pay a contribution and the employed person fails to pay a contribution which he is liable under this Act to pay, such contribution shall not be recoverable by the employer from the employed person.

52. (1) Every person who buys, sells, or offers for sale, takes or gives in exchange or pawns or takes in pawn, any insurance card, insurance book, or used health insurance stamp, or any document or thing used in the administration of this Act, or has in his possession any of these things, not being entitled to possess them, shall be guilty of an offence against this Act and for each such offence shall be liable on summary conviction to a fine not exceeding two hundred and fifty dollars or to imprisonment for a term not exceeding three months, or to both fine and imprisonment.

(2) For the purposes of this section an insurance stamp shall be deemed to have been used if it has been cancelled or defaced in any way whatever and whether it has been actually used for the purpose of the payment of the contribution or not.

53. (1) Proceedings for an offence under this Act shall not be instituted except with the consent in writing of the Commission or by an inspector or other officer appointed under this Act and authorized in that behalf by special or general directions of the Commission.

(2) Proceedings for an offence under this Act may be commenced at any time within three months from the date on which evidence, sufficient in the opinion of the Commission to justify a prosecution for the offence, comes to their knowledge, or within twelve months after the offence, whichever period is the longer.

(3) For the purpose of this section, a certificate issued by the Commission as to the date on which such evidence came to their knowledge shall be conclusive evidence thereof.

54. Any sum due and owing to the Fund under this Act shall be recoverable as a debt due to the Crown in the right of the province and, without prejudice to any other remedy, may be recovered by the Commission as a civil debt:

Provided, however, that proceedings for the recovery of the same shall not be brought except within three years from the time when the same shall have become due and owing.

55. (1) Where any employer fails or neglects to pay any contributions which under this Act he is liable to pay in respect of any employed person in his employment, or fails or neglects to comply, in relation to any such person, with the requirements of any regulations relating to the payment and collection of contributions, and by reason thereof that person is not qualified to receive a benefit which he would have been qualified to receive but for that failure or neglect, the Commission may either supply that person with that benefit or pay him the value of the benefit he has so

Additional penalty.

Convicted employer may not recover from insured person.

Penalty for sale or improper use of insurance books, cards, stamps, etc.

Power to take and conduct proceedings.

Proceedings may be commenced within three months of evidence of offence.

Certificate of Commission evidence of date.

Sums due recoverable as civil debts.

Proviso.

Civil proceedings by employee against employer for neglect to comply with the Act.

lost, as the circumstances of the case may require, and shall recover from the employer as a civil debt a sum equal to the value of the benefit so supplied or the amount so paid.

Penalty for receipt of benefit through non-disclosure or misrepresentation of material fact.

Additional proceedings.

Proceedings may be taken within one year.

Value of benefit.

Regulations on additional matters

Reference of administration matters to committees.

Penalties for violation of regulations.

Modification of provisions of Act by regulations.

Approval and publication of regulations.

Amendment of regulations.

Duty of Commission respecting annual report to Minister.

Report to be laid before Legislature.

(2) If it is found at any time that any person, by reason of the non-disclosure or misrepresentation by him of a material fact (whether the non-disclosure or misrepresentation was or was not fraudulent) has received any benefit while he was not qualified for receiving that benefit, he shall be liable to pay to the Fund a sum equal to the value of the benefit so received by him.

(3) Proceedings may be taken under this section notwithstanding that proceedings have been taken under any other provision of this Act in respect of the same failure or neglect.

(4) Proceedings under this section may be brought at any time within one year after the date on which the insured person, but for the failure or neglect of the employer, would have been entitled to receive benefit which he has lost.

(5) Regulations may be made hereunder for determining the value of any benefit for the purposes of this section.

Regulations

56. (1) In addition to the authority elsewhere in this Act conferred upon the Commission to make regulations, the Commission may also make regulations

(a) governing the reference, for consideration and advice, of questions bearing on the operation of this Act to any committee established under this Act.

(b) for prescribing penalties for the violation of any regulation, including maximum and minimum fines: Provided, however, that a fine prescribed shall not exceed two hundred and fifty dollars nor shall a term of imprisonment exceed three months.

(c) generally for carrying this Act into effect.

(2) Any regulations made under this Act may contain such incidental, supplemental, or consequential provisions as appear necessary for modifying and adapting the provisions of this Act to the provisions of the regulations and otherwise for the purposes of the regulations.

(3) All regulations made under this Act shall be without effect until approved by the Lieutenant-Governor in Council and published in the Gazette, and shall then have effect as if enacted in this Act and shall be laid before the Legislative Assembly within two weeks after approval, or, if the Legislative Assembly is not then sitting, within two weeks after the Legislative Assembly next sits; and any regulation may be varied or revoked by subsequent regulation made in like manner.

General

57. (1) Within one month after the thirty-first day of March in each year, or within such longer period as may be approved by the Lieutenant-Governor in Council, the Commission shall submit to the Minister a report covering the business and affairs of the Commission, for the twelve months ending on the said thirty-first day of March, in such detail as the Minister may from time to time direct; and such report shall contain a statement of the costs arising out of the administration of this Act, including the indirect costs as nearly as they may be ascertainable and also a statement of the services rendered to the Commission by other departments of the public service.

(2) The Minister shall lay before the Legislative Assembly any such report within fifteen days after it is submitted to him or, if the Legislative Assembly is not then sitting, within fifteen days after the Legislative Assembly next sits.

- Lieutenant-Governor in Council may require investigation and report by Commission.
- Reports submitted through Minister.
- Power of Commission to require returns by any person.
- Penalty for failure.
- Fines to Province.
- Power of Lieutenant-Governor in Council to make reciprocal agreements with other governments.
- Audit of accounts.
- Contributions payable when prescribed by Commission.
58. The Lieutenant-Governor in Council may direct the Commission to investigate and report upon all questions which the Lieutenant-Governor in Council may deem advisable or necessary.
59. All reports, recommendations and submissions required to be made under this Act to the Lieutenant-Governor in Council shall be submitted through the Minister.
60. The Commission may require any person to make written returns of information deemed by the Commission to be necessary for the purposes of this Act, and failure to comply with any such request shall be an offence against this Act and shall on summary conviction render liable any person in default to a fine not exceeding fifty dollars or to imprisonment for a period not exceeding one month, or to both fine and imprisonment.
61. Any fine imposed under this Act or regulations made thereunder shall unless otherwise provided for be payable to His Majesty in the right of the province and be disposed of as the Lieutenant-Governor in Council may direct.
62. The Lieutenant-Governor in Council may, notwithstanding anything herein contained, enter into agreements with the Government of another province or country to establish reciprocal arrangements on questions relating to health insurance.
63. The accounts of the Commission shall be subject to the applicable provisions of the Audit Act.
64. No contribution shall be payable or paid under the provisions of this Act until a date to be prescribed by the Commission of which due notice shall be published in the Gazette and in such other manner as the Commission may deem necessary.

SCHEDEULE A

(Section 4 (2))

Showing:

- (i) the amount of contribution payable by and on behalf of an employed person who has worked for an employer for the whole of a pay-period.
- (ii) the yearly rate of contribution payable by and on behalf of an assessed person; and
- (iii) the yearly rate of contribution payable in respect of a person, other than a child under the prescribed age, who is wholly dependent on a contributor. (In case of partial dependency the rate is to be proportionate to the degree of dependency.)

Class of Contributor	Pay-period of the Employer					Yearly rate of contribution
	Day	Week	Fort-night	Three times a Month	Month	
Men and Women who have attained the age of 20 years.....						
Young men and young women who have attained the age of 17 years but not the age of 20 years...						
Boys and girls under the age of 17 years.....						

SCHEDULE B

(Section 5 (1))

Employments within the meaning of the Act.

- (a) Employment in the province under any contract for services or under any contract of service or apprenticeship, written or oral, whether expressed or implied, and whether the employed person is paid by the employer or some other person, and whether under one or more than one employer, and whether paid by time or by the piece or partly by time and partly by the piece, or otherwise, or without any money payment.
- (a1) Employment in the province under such a contract as aforesaid under
 - (i) the Government of Canada;
 - (ii) The Government of the Province or of any other province of Canada; or
 - (iii) any municipal or other public authority.
- (b) Employment under such a contract as aforesaid as master or a member of the crew of any ship of Canadian registry, or of any other ship or vessel of which the owner, or, if there is more than one owner, the managing owner or manager, resides or has his principal place of business in the province.
- (c) Employment in the province as an outworker, except in so far as such employment is excluded by special order.

The expression "outworker" means a person to whom articles or materials are given out by another person to be made up, cleaned, washed, altered, ornamented, finished, repaired or adapted for sale for the purposes of the trade or business of that other person where the process is to be carried out either in the home of the outworker or in some other premises not being premises under the control and management of that other person.

A special order under this provision may exclude outworkers engaged in work of any class, or outworkers of any class or description specified in the order.

The person who gives out the articles or materials shall, in relation to the person to whom they are given out, be deemed to be the employer of that person for the purposes of this Act, but a special order may provide that as respects any outworkers or any class of outworkers specified in the order a person specified in the order shall, instead of the person who gives out the articles or materials, be deemed to be the employer.

- (d) Employment in the province by the province or under any local or other public authority or the Dominion Government.
- (e) Employment in the province in plying for hire with any vehicle or vessel the use of which is obtained under any contract of bailment in consideration of the payment of a fixed sum or a share in the earnings or otherwise, and the person from whom the use of the vehicle or vessel is so obtained shall be deemed to be the employer for the purposes of this Act.
- (f) Employment in the province by way of manual labour under a contract for the performance of such labour for the purposes of any trade or business, except in so far as such employment is excluded by a special order.

The person for the purposes of whose trade or business the labour is performed shall, in relation to the person performing the labour, be deemed to be the employer of that person for the purposes of this Act.

- (g) Employment as master or a member of the crew of any fishing or other vessel of Canadian registry, or of any other vessel of which the owner, or if there is more than one owner, the managing owner or manager, resides or has his principal place of business in the province, when the person so employed is remunerated by a share in the profits or gross earnings of the vessel.

Note: This sub-paragraph is in the British Act but it would seem it might be deleted in our draft.

The owner of the vessel, or if there is more than one owner the managing owner or manager, shall for the purposes of this Act be deemed to be the employer; but a special order may

- (i) modify in the case of persons so employed, or any class of such persons specified in the order, the provisions of this Act restricting the right of deducting or otherwise recovering the employer's contribution;
- (ii) provide that as respects any person so employed, or any class of such persons specified in the order, a person specified in the order shall, instead of the owner, managing owner, or manager, be deemed to be the employer.

SCHEDULE C

(Section 7 (1))

PART I

- | | |
|---|-------------|
| (1) Name | (2) Address |
| (3) Single, married, widowed, divorced, or separated. | |
| (4) Date of birth. | |
| (5) If you are dependent on any other person for support, give name, address and relationship to you of each such person and details concerning the nature and the extent to which each contributes to your support and the extent, if any, to which you contribute to your own support. | |
| (6) If married: Name of wife/husband; date of birth.
If your wife/husband is engaged in any gainful occupation, give particulars; if an employee, give name and address of employer.
If living separate, give details of any arrangements for support. | |
| (7) Name, sex, date of birth and address of each child under . . . years of whom you have for the time being the care and control. | |
| (8) Name, sex, date of birth and address of each child over . . . years of whom you have for the time being the care and control and who is attending an educational institution. Give name of institution in each case. | |
| (9) Name, sex, date of birth and address of any person, other than given in (6), (7) and (8) above, who is dependent on you for support in whole or in part; the extent to which you contribute to the support of each such person. | |
| (10) Your usual occupation (if you have more than one occupation, state each and the proportion of the past year in each; also idle time and time lost through illness). | |
| (11) If you are an employee, give name of employer, or of last employer if not now employed; place of employment; rate of pay; how long employed in the year ended with all employers; total earnings for the year with all employers, including personal and living expenses forming part of your remuneration.
State the amount of your earnings in the past year while working on your own account. | |

PART II

Contributions Remitted

NOTE:—If you fill out Part I and this Part and remit the contribution for yourself and for each person who is dependent on you for support, it will be unnecessary for you to fill out Part III below. You are not required to make contribution for children under the age of . . . years.

Enter in the space below the name of each person for whom you are now making payment of the contribution and the amount of the contribution in each case. For a person who is partially dependent on you for support, you are to pay a proportion of the full contribution equal to the proportion in which you contribute or in which you believe you are contributing to the support of that person.

Details to be given under the following heads:

- (12) Name, date of birth, sex, marital status, relationship and place of residence of each person for whom contribution is remitted;
- (13) Degree of dependency for each dependent;
- (14) Contribution for each person (reduced to take account of partial dependency);
- (15) Total contribution;
- (16) Net amount remitted.

PART III

Assessment Return

- (A) Statement of Personal Property owned as at December 31, 19....

Details	Owner's Valuation	For use of Department
(There is to be given under this head a statement of all personal property as follows: Livestock; implements; tools and equipment; ships, boats, nets, etc.; household furniture; library; mortgages, bonds, stocks and other investments; cash on hand and on deposit; amounts receivable; surrender values of insurance policies, and all other personal property together with a statement of amounts owing.)	\$	\$

- (B) Statement of Real Property owned as at December 31, 19....

Details	Assessed value in municipality where situate	For use of Department
(There is to be given under this head for each parcel of real property (1) the municipality in which it is situate, (2) the description of the parcel in the last assessment notice for taxation, (3) the assessed value in that notice, (4) the amount of any mortgage, charge or loan and the holder thereof.)	\$	\$

- (C) Statement of Income for the year ended December 31, 19.... other than income from property.

Details	Amount Received
(There is to be given under this head the amounts received as salary and wages, bonuses and gratuities; pensions; annuities; professional fees; director's fees; value of board, living, house or subsistence allowances; and all other earnings or income or receipts of the year.)	\$

- (D) Statement of Personal Property and Real Property used for the purposes of your occupation, trade or business under lease at any time during the year ended December 31, 19....

(Details)

NOTE:—The details under (A), (B), (C) and (D) have not yet been fully worked out. The above is given to indicate the general principles intended to be followed in working out the details.

THIRD SCHEDULE

(Section 5)

The provision and maintenance, under the direction of the Minister of Health of the provincial government, of the following directional, consultive, educational and administrative services and activities:

- (1) ***PREVENTIVE***
To increase existing facilities for the control of communicable diseases and for the free distribution of vaccines and sera and other biological preparations, for the prevention and treatment of such diseases.
- (2) ***CONSULTIVE***
To aid in the provision of technical advisory services both in a consultive capacity and for the purpose of controlling outbreaks of communicable diseases.
- (3) ***EDUCATIONAL***
For the formulation and adoption of a programme of education in the field of public health including the organization of local voluntary agencies for the dissemination of educational information through literature, lectures, radio and other measures.
- (4) ***MENTAL HYGIENE***
To provide mental hygiene services including psychiatric clinics for early diagnosis; and to co-operate with the Department of Education in the provision of educational classes for mentally retarded and mentally defective children.
- (5) ***COMMUNICABLE DISEASE CONTROL***
For the provision of communicable disease control services with personnel trained in the field of disease prevention and treatment.
- (6) ***FOOD AND DRUG CONTROL***
For the sanitary supervision of premises and the medical supervision of personnel engaged in the manufacture and distribution of foods, drugs and biological preparations, and for the enactment of legislation for such purposes.
- (7) ***NUTRITION***
To aid in the establishment of nutritional services under a director whose duties shall be to conduct surveys, carry on research and educate the public in regard to nutritive values of foods and to collect data regarding available foods in the province, their transportation, manufacture, distribution and sale.
- (8) ***LABORATORY***
To extend existing laboratory facilities.
- (9) ***SANITATION***
For the establishment of sanitary engineering services to supervise and direct all measures related to the provision of adequate sanitary facilities.
- (10) ***VITAL STATISTICS***
To collect and disseminate all information relating to births, marriages and deaths; to collect morbidity and mortality reports of communicable diseases relating to any health insurance plan that may be adopted by the province; and to publish an annual report analyzing the deaths and various factors related thereto.
- (11) ***HOSPITALIZATION AND SANATORIA***
For the supervision of hospital services under a director experienced in the field of hospitalization and the establishment, maintenance and supervision of hospital standards.
- (12) ***DENTAL HYGIENE***
To provide adequate dental inspection for school children both in urban and rural areas and for the adoption of corrective measures through co-operation

tion with the Health Insurance Authority; to extend travelling clinics to provide remedial treatment in remote districts both in respect of adults and children; and to extend existing dental clinics.

(13) *CHILD AND MATERNAL HYGIENE*

For the adoption of child and maternal hygiene services under the direction of one or more specialists; for the institution of recognized and accepted procedures; for the reduction of infant and maternal mortality and for the purpose of integrating the activities of these services with measures adopted under a health insurance plan for the provision of child and maternal services.

(14) *INDUSTRIAL HYGIENE*

To supervise environmental sanitation, medical and nursing services and all factors relating to the health and welfare of industrial and other workers.

(15) *QUARANTINE INCLUDING AIR NAVIGATION*

For the adoption of such preventive measures as are necessary to prevent the dissemination of communicable diseases including diseases which may be introduced into the province by aeroplane.

(16) *PUBLIC HEALTH NURSING*

To provide such public health nursing services as may be necessary for the prevention and treatment of communicable diseases and the supervision of sanitation in relation to the home, as well as the enforcement of quarantine measures; to assist the family in the application of sanitary and social measures and generally in the promotion of health.

(17) *HOUSING*

Under the sanitary engineering services, to provide regulations governing sites, plans and construction of houses from the standpoint of health.

(18) *VENEREAL DISEASE*

To establish a Division of Venereal Disease Control and to extend existing Divisions.

(19) *TUBERCULOSIS*

To develop a comprehensive programme for the prevention of tuberculosis and in co-operation with the Health Insurance Authority to conduct mass X-rays; to provide for rehabilitation of arrested cases; to cooperate with voluntary agencies and to carry out an educational programme.

(20) *CANCER*

To provide aids for early diagnosis through hospitals and clinics and other accepted media; and to co-operate with voluntary agencies in an educational programme.

(21) *HEART*

To make available preventive and diagnostic services for the prevention and early detection of heart disease in children.

(22) *SCHOOL HEALTH SERVICES*

To provide medical inspection of school children in all sections of the province for the detection and control of communicable diseases and for the prevention and correction of physical defects.

(23) *EPIDEMIOLOGY*

To provide expert personnel for the purpose of directing all studies, investigations, preventive and control measures relating to communicable and other diseases.

(24) *RESEARCH*

To conduct research in diseases both of bacteriological and virological origin as well as other studies relating to the prevention and control of disease.

PART II

HISTORICAL SURVEY

CHAPTER I

Introduction

Throughout the ages man has attempted to gain security for himself and his dependents. One means through which this security has been achieved is insurance. One form of insurance, and a very important one, is health insurance—or as it is sometimes called, sickness insurance.

The functions of complete health insurance may be shortly classified as compensation, cure and prevention. The usual method of compensation for economic loss through illness is that of cash benefits. The methods adopted to fulfil the second function—in other words, the treatment of illness and restoration to health—are usually benefits in kind, and the preventive aspects are best handled by the provision of healthy living conditions.

We can therefore define health insurance as an institution set up to provide preventive and curative medical care and partial compensation for loss of wages, in case of illness of a non-occupational nature, for a limited period. While health insurance is concerned mainly with illness due to diseases, it must also take care of non-occupational accidents.

The forms and functions of health insurance in practice are varied. It may be a purely individual transaction between the insured person and the insurance body, it may apply to a small group, or it may extend its coverage to the entire population of a

nation. It may be controlled and administered by the state, controlled by the state and administered through existing mutual-aid organizations, controlled and administered in a cooperative manner by public organizations, or for private profit by regularly established insurance companies. It may provide for the three aspects of compensation, cure and prevention, or it may provide only one or two of these functions. It may be voluntary or compulsory. Contributions may be made by the insured persons, employers or the state, or by any combination of these three bodies.

Thus we see that health insurance has several functions and several ways of fulfilling these functions. There is an ideal toward which each country may strive but this ideal must expect fulfillment only in a perfect society. Each state falls short, in some respects, of giving the complete protection that is ideally possible. But each state must solve the problem in the light of its own peculiar characteristics, always striving toward the ideal. Financial limitations, largely rural populations, the presence of powerful pressure groups, and so on, all play their role in limiting the efficiency of health insurance schemes.

In the following pages we shall trace the struggle of various societies to achieve a measure of security from illness and from the consequent loss of earning power, and in Part III we shall study the national health insurance schemes now in operation throughout the civilized world.

Material for Part II compiled by J. C. Young, Acting Director, Publicity and Health Education, Department of Pensions and National Health.

The Evolution of the Social Security Idea

What Social Security Is

Mr. Morris Stack wrote last year in a publication of the International Labour Office that "the right to social security thus takes its place among the fundamental rights of man."

Before discussing the evolution of the social security idea it would be well to define just what social security means. It has been defined as the security that society provides through appropriate organizations against certain risks to which its members are exposed. These risks are contingencies against which the individual of small means cannot effectively provide by his own ability or foresight alone, or even in private combination with his fellows. It is characteristic of these contingencies that they imperil the ability of the working man to support himself and his dependents in health and decency. This insecurity is caused by a threat of the loss of earning power, and such loss may come about through accident, old age, unemployment or sickness.

The modern idea is, therefore, that as the state is an association of citizens which exists for the sake of their general well-being, it is a proper function of the state to provide social security.

Origins

Since the dawn of human life man has striven for security. Human life on this planet is at best a risky business, and this risk has been the spur in many instances to great achievements and noteworthy contributions to the science of living, but at the same time it has been a pitfall to lives which might otherwise have been most useful to society.

The risk factor in life has been the chief cause of the growth of social solidarity. Out of this search for security arose the family, under parental leadership and care. This grouping of blood relations developed further into the primitive tribal group in which blood relationship was still present. Ever seeking an expansion of membership, which would spread the individual risks of its members more evenly and more lightly over a greater number of persons, tribes banded together to form communes, feudal states and finally nations. Throughout the growth of human society one may note this constant urge for larger and ever larger aggregations which, in their essence, are organizations for mutual aid. Perhaps this urge may eventually culminate in the universal brotherhood of man which men of good will have been advocating for centuries.

The family, which is the primary unit of social organization and the original cell of security, is the first line of defense. But in modern society it can cope only with limited misfortunes and, in case of calamity, appeal must be made to the larger groups, the neighbours, the municipality, the provincial authorities, or the central government.

Social security found its origin in the unit of human society known as the family. We see that it naturally extended to larger and larger groups. The reason is not hard to find. Risks which, if they became actualities, might well destroy the individual, can, if spread among a large number of people, be easily carried. From this fact the insurance principle was established.

As far back as Roman times we come across definite organizations with a social security aspect. Among the mutual aid associations providing a form of insurance against death were the Roman *Collegia*, which have been traced back as far as the foundation of Rome. The members met for social intercourse, feasting, and so forth, but the principle of insurance also found expression in their activities. They provided what, in modern insurance parlance, is termed a "funeral benefit," and many of the *Collegia* were constituted chiefly for this purpose.

We have detailed knowledge of the working of these "colleges" from the deed of the foundation of the College of Diana and Antinous, which was formed at Lanuvium, near Rome, in A.D. 133. From this deed, which was discovered in 1816, it appears that the members, who were all poor men, paid an entrance fee of 100 sesterces (about \$4.00), together with a flagon of good wine, and a monthly subscription of 5 asses (about 5 cents). On the death of a member who was not in arrears with his subscriptions the heir received a sum of 300 sesterces for funeral expenses, out of which 50 sesterces had to be distributed to the members present at the funeral.

Middle Ages

By the time of the Middle Ages society had developed into a fairly complex organism. Even then attempts were being made by the state, as well as by the workers themselves, to protect the individual from disaster. These attempts took the form of assistance from others, either from the state or from the individual's fellow workers. It is along these two lines that we can trace the development of social security during the Middle Ages—state efforts to

alleviate distress and the efforts of workers themselves.

State Aid.—A thousand years ago the relief of the poor within the dominions of Charlemagne was deemed to be the responsibility of the parish. This principle has remained the basis of statutory or customary poor relief in western Europe and North America until our own time. From the sixteenth century on, some larger cities began to classify the poor and to attempt the application of the national and constructive methods proposed by Vives in 1526. Instead of indiscriminative alms-giving this Spanish humanist advocated social casework, vocational training for the unemployed, boarding schools for abandoned children, separate hospitals for the sick and insane, and sheltered employment for the blind and infirm.

Before the introduction of Poor Rates care of the more unfortunate members of society was one of the important functions of the church. With the arrival of the Reformation, however, and the weakening of the religious sanction in Protestant countries, secular administration was substituted for ecclesiastical in local communities. This religious revolution was one of the major factors, in England, at least, in the substitution of poor rates for that of church charity.

The English Poor Law of 1601 established for the first time a compulsory poor rate to finance parochial assistance. The parish was to apprentice poor children, to provide work for the able-bodied unemployed, and to grant necessary relief to persons incapable of work. It was two centuries after this before national legislation of a similar character, systematizing the customary responsibility of the commune, was introduced in Denmark and Sweden.

The grave disadvantage of this system of poor rates lay in the inequality of treatment as between richer and poorer units, and in the inefficiency of method in the smaller ones. These difficulties are characteristic of poor relief as financed and distributed by local authorities. They are only remedied by a policy of enlarging the area to be taxed and served by the assistance system, first, by grouping communes together for assistance purposes, then by laying certain responsibilities on counties or provinces, and finally by associating the central government itself in the administration of public assistance.

Guild Schemes.—Along with the growth of Poor Rates under the jurisdiction of local authorities, there grew up the associations of fellow workers. The notion of mutual aid, already employed from the earliest times in the family relationship, acquired an independent existence in the societies of workers,

alike in status, who banded together and agreed to help one another in the misfortunes to which all were exposed. Such societies of equals, based as a rule on the exercise of the same occupation, were the earliest social insurance institutions. They were the trade guilds of the Middle Ages. (Social and religious guilds, with similar ideas of mutual aid, were also in existence.)

These guilds, to which belonged masters and journeymen of the same craft, often provided for the assistance of their members in case of sickness and injury. Generally, the rules of the guild prescribed that a sick journeyman should be cared for at the expense of his master. The guild, however, was concerned mainly with the protection of the craft and the defence of the economic interests of the masters, the promotion of social solidarity being a secondary purpose, and the harmony of these organizations was often disturbed by disputes between masters and journeymen, chiefly on the subject of wages.

In the fourteenth century the journeymen began to organize themselves in separate bodies known as journeymen's guilds, membership of which was confined to journeymen in a particular craft. These journeymen's guilds attached a greater importance to mutual aid than did the masters' guilds. Relief in case of sickness, disablement and death was paid by the journeymen's guild itself, or by a subsidiary fund created and supported by it. As a rule the benefits were granted in the shape of a loan to be paid back by the journeyman, when, restored to health, he resumed his work. Later on benefits were granted in return for a crudely estimated contribution.

It was not until the seventeenth century that the discovery of the law of mortality provided a mathematical basis for the development of life insurance as a commercial enterprise. Actuarial technique, although primarily applied to life insurance, was essential for the proper design and management of the first schemes of social insurance. The application of this actuarial technique was of considerable aid in the proper handling of these guild benefit organizations.

The range of action of the journeymen's guilds, however, remained restricted because their development was hindered by the state and, more especially, by the masters' guilds which, having grown powerful, fought keenly to defend and increase their privileges and erected a complex body of regulations designed to limit the number of masters and to increase profits rather than improve the technique of the craft or secure honest workmanship.

In the eighteenth century the masters' trade guilds had become tyrannical and constituted an obstacle to progress. They were the object of strong attacks, not only by the journeymen, whose wages they constantly reduced, but also by consumers from whom they demanded excessive prices. Their unpopularity was such that in Great Britain their privileges began to be withdrawn in the middle of the eighteenth century, and this process continued until, by 1835, when their privileges were formally abolished by statute, they had practically ceased to exist. In France they were suppressed at the Revolution, and the opening of the nineteenth century saw the disappearance of mutual-aid institutions of guild or craft origin.

The Industrial Revolution

Until the end of the eighteenth century industry consisted mainly of handicrafts and, as we have seen, this resulted in the banding together of journeymen and masters in craft guilds, from which evolved the first true mutual-aid societies. We have also seen that even before the advent of the Industrial Revolution the popularity and effectiveness of these guilds were on the decline. One of the effects of the Revolution was to abolish the guilds and to prohibit the formation of trade associations, whether of employers or workers. At the same time, the equality of all persons before the law and freedom of trade were proclaimed.

Henceforth, the relations between wage-earners and employers were governed by the common law and the individual worker was to settle freely with his employer the terms of the contract of appointment. Such was the essential character of the juridical system, forgetful of trade solidarity, in which the workers had to face the great Industrial Revolution that engendered the immense army of wage-earners.

A few years after the establishment of equality before the law, with which trade solidarity was inconsistent, large scale industry began to develop, but remained for a long time unorganized. It did not know how to estimate the capacity of consumption and frequently suffered from crises and overproduction. This was a period of great misery when there was slowly formed, under the pressure of suffering, the feeling of solidarity which had been lost with the abolishment of the guilds and which was necessary for the achievement of security against the risks of the workers' lives.

In the face of this distress the *laissez faire* state preserved an attitude of indifference. Believing as it did in equality before the law and economic liberty, it elevated inactivity to the dignity of a doctrine.

Statesmen and members of parliament were fully occupied with political problems. Few appreciated the social significance of the Industrial Revolution which was going forward under their eyes. Thus for a long time the public authorities intervened no further than to distribute bread tickets to families of workers who were sick and unemployed.

Later Nineteenth Century

Employers.—Following upon the Industrial Revolution the state continued its *laissez faire* policy of leaving well enough alone, while the workers, through adverse legislation, were not in a position to band together for their mutual aid. It was, oddly enough, the employers who resurrected the idea of social security and put it into action—with little success, however. These employers' schemes of welfare and relief were not prompted altogether by a feeling of social responsibility, fear being an important factor. Their efforts were chiefly due to their realization that distress breeds a dangerous temper, although some were indeed guided by a feeling of social duty and a desire to secure the services of a labour force which should be stable, healthy and loyal.

The third quarter of the nineteenth century witnessed the appearance of numerous employers' welfare institutions, such as hospitals, homes, and funds for pensions and relief.

Four factors, however, worked against the success of these schemes. In the first place, they covered only a small proportion of the working class. Secondly, the basis of organization, the factory, was too narrow to afford aid or give coverage against the more serious risks, such as industrial accidents, lengthy illnesses, invalidity and old age. In the third place, there was too great a variety of plan and dispersal of effort. Lastly, they excited the distrust of the masses and the opposition of the socialist bodies which were rapidly growing at that time. These new bodies saw in the schemes a means of restricting the workers' freedom of movement, and they also disliked the fact that workers had no say in the management of the schemes.

Workers.—The preachings of the socialist parties, on the one hand, and the growth in power of the industrialists, on the other, eventually led the workers to the realization that they existed as a separate social class. Before the Industrial Revolution the uncertainties and calamities of life had generally been due to natural causes, but with the coming of the machine age and the expansion of population new uncertainties appeared.

The worker in the big factory, badly paid, unable to save, weakened by exhausting labour and insuffi-

cient nourishment, fell into destitution when unable to work through accident, sickness or old age. Large classes of people who were without property and who earned small wages found themselves without the means of establishing individual financial reserves against emergencies.

Thus, in the economic sphere, the workers found themselves up against a new and disastrous situation. In the legal sphere, they discovered that in bargaining between individual worker and individual employer there is no genuine equality and that, in fact, the terms are always imposed by the employer, who is stronger because he is richer. They perceived that for one who depends upon wages for a living there is no liberty without economic strength. On top of this was the suspicion with which the employers' welfare and relief schemes were held by the workers.

All of these factors combined to make the workers regard their interests as distinct from those of their employers, and this class feeling led to the creation of class institutions. The latter took up with the authorities a struggle to obtain the right to establish and administer defensive associations and funds for collective provision against risks to which all were exposed.

Trade unions, forbidden about the time of the Industrial Revolution, sometimes disguised themselves behind relief funds, which were first of all tolerated and then recognized, although more often it was the trade union which became the embryo of the provident fund. From Great Britain, the classic land of friendly societies, this mutual-aid movement spread over the Continent.

At the outset mutual-aid societies were based on trades, like the mediaeval guilds. While the society's connection with the trade association, from which it sprang, secured for it the support of trade unionists, the range of its membership was at the same time restricted, and its financial resources were limited to the small contributions which the workers were able to pay. Its basis of organization was not large enough to enable it to undertake insurance against the more serious risks of prolonged illness and disablement.

Thus, the mutual-aid side of trade union activity had a precarious origin and remained restricted both in its range of action and in its resources. Nevertheless, it supplied the foundation of a system which was later to be developed with the aid of the public authorities.

The State.—Up to this point we have noted that employers had not successfully alleviated the situation with their welfare and relief schemes, while the workers had been slightly more successful by estab-

lishing their mutual-aid societies which, although valuable, were restricted in their scope.

During the early years of this period the state continued its "hands off" policy. But in the last thirty years of the nineteenth century we are able to observe a steadily increasing interest on its part in the solution of the security problems of labour. As industrialization became more intense, the conviction grew that the community would suffer in its health, its production capacity and its future by reason of the distress of its producers.

This growing conviction arose from a variety of causes. Universal suffrage had vastly extended the scope of the electorate and legislators were beginning to realize that the common man had now become a force in the election of parliamentary representatives. Trade unions, too, were growing up, while the propagation of socialist teaching was expanding. These factors, together with the gradual recognition that absolute liberty invariably gives victory to the stronger, led to the abandonment of the *laissez faire* doctrine.

Thus the state no longer considered its task to be limited to authorizing the establishment of schemes of welfare or mutual aid and to the regulating of the relations between managers of such schemes and the beneficiaries, according to ordinary law.

Instead the state began to encourage the mutual-aid movement by giving financial assistance to mutual-aid societies. This action on the part of the state greatly increased the membership of the mutual-aid societies, although these could never be an adequate solution of working-class security for the following reasons: (1) only a small proportion of the working class was protected; (2) many workers failed to insure, some by improvidence and some through lack of means; (3) lower wage earners were less able to save and were more frequently ill; (4) there were too many societies and many of them were too small to be effective, and (5) there was little order in their distribution about the country, resulting in gaps and overlapping.

It was some years after the state's recognition of and financial aid to mutual-aid societies, in an effort to alleviate social insecurity, before it began to concern itself actively in the organization of social insurance.

Emergence of a Pattern

At the opening of the present century the traditional approaches to social security, which we have traced through the primitive units of early civilization, up through the mediaeval guilds, the poor rates, and the various attempts on the part of em-

ployers, workers and government, had given rise to two main currents: social assistance, representing the unilateral obligation of the community towards its dependent groups, and social insurance, based on mutual aid. Both approaches are needed in a complete program of social security.

If present-day developments have been correctly read, social assistance and social insurance are moving ever closer to one another. As the culmination of a long evolution they may even meet and combine until, as in New Zealand and Denmark today, we can no longer say whether social assistance or social insurance predominates, but only that they possess a national system of social security.

Social Assistance

Social assistance schemes have been defined as those which provide benefits for persons of small means, granted as of right, in amounts sufficient to meet a minimum standard of need, and financed from taxation.

The social security system of a country consists of a complex of its social insurance and social assistance schemes. Social assistance has in the main confined itself to spheres of service in which the public interest is pre-eminent and which at the same time offer little occasion for abuse.

Until about 1900 almost the only examples of social assistance were to be found in the field of medical care, and especially hospital care. Immediately after the First World War, however, states began to concern themselves intensively with tuberculosis and venereal diseases, and with all aspects of maternal and child welfare. One of the results of the First World War was to draw the attention of the state to the population question, because of the loss of manpower in the conflict and because of the falling birth-rate. The first legislation was concerned with maternity, preventive care of expectant mothers, obstetrical care, and assisting mothers to nurse their babies. Then medicine began to follow children into the school and guard their health and welfare through the lower classes.

In the early days of social assistance it was not foreseen how it would gradually extend its functions and, from being principally concerned with compensation by cash benefits, would turn its attention more and more to preventive and restorative services.

Social assistance schemes today may be classified under the following headings:

1. old age and invalidity pensions
2. mothers' pensions
3. unemployment assistance
4. medical assistance
5. rehabilitation of the disabled.

Social Insurance

Social insurance schemes, as distinct from social assistance schemes, provide benefits for persons of small means, granted as of right in amounts which combine the contribution effort of the insured with subsidies from the employer and the state.

Incidentally it may be noted that the general risk of sickness is invariably covered by insurance rather than by assistance.

Social insurance may be divided into two classes—voluntary and compulsory.

Modern social insurance schemes can be classified under the following headings:

1. workmen's compensation
2. unemployment insurance
3. sickness insurance
4. pension insurance.

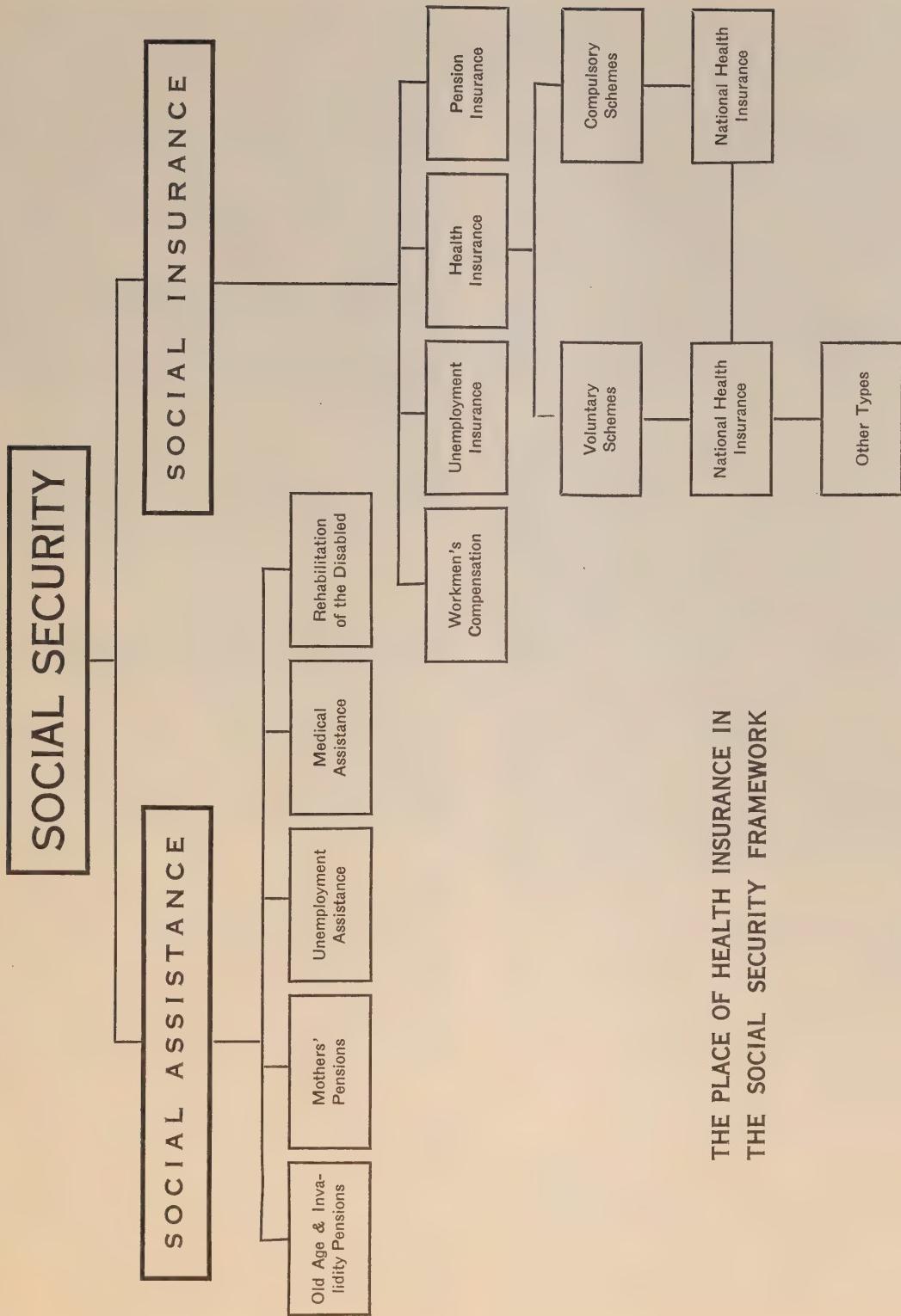
Voluntary.—For building the first great European schemes of social insurance the foundations were the previously existing voluntary sickness funds, pension funds and the principle of employers' liability. Social insurance distinguishes between the accident risk, for which the employer is held liable, and the general physical risks, which are regarded as the common concern of the employers and workers. The general physical risks are, in turn, classified for the purpose of organization according as they imply short-term cash and medical benefits, as in the case of sickness, and long-term cash benefits, as in the case of old age, death and invalidity.

In voluntary insurance the most advanced branch is commonly sickness insurance.

The voluntary societies have introduced into social insurance a valuable tradition of democratic self-government, but on the debit side of the account, where voluntary insurance is concerned, is the fact that the groups most in need of insurance protection, namely, those with the lowest wages, the most irregular employment, and the least savings, cannot afford to purchase protection unaided, although the cost of insurance is, of course, lowered in those cases where a subsidy is provided by the state.

Compulsory.—Although voluntary insurance has been a recognized institution for a good many years and compulsory social insurance has been a practical institution since 1883, when it first made its appearance in Germany, it is only in our own generation that the latter has appeared as a social necessity.

In these latter decades, the development of economic life, with all that it has brought in the increased outpouring of material wealth, has, nevertheless, tended towards a greater social insecurity of the individual and of the family dependent on him. The economic status and welfare and, it would seem, also



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the physical health, of the village blacksmith were much more secure in Longfellow's day than are the health and welfare of the modern mechanic today. Thus has been brought about the need for the mutual insurance of all members of society against the more serious dangers, a compulsory insurance so that the more secure cannot stand aside and leave the risks to be loaded on the shoulders of the less secure.

Compulsory social insurance began nearly sixty years ago in Germany, and Bismark's legislation of 1883-89 has more than any other influenced the development of social insurance.

Other countries followed the lead of Germany, some first passing through a period of voluntary insurance. Most countries, however, have preferred to dispense with the phase of subsidized voluntary

insurance, either because the social conditions for its success were lacking or because the state was not ready to provide the subsidy required. We have already mentioned that the voluntary societies introduced into compulsory insurance the very valuable tradition of democratic self-government.

In the organization of social insurance the leading tendency has been towards centralization by the spreading of responsibility for common risks over an ever more numerous group, by occupational schemes giving place to those which embrace all trades without distinction, and by the enlargement of the area served by the insurance institutions. These tendencies can be more easily facilitated by a system of national compulsory insurance than by voluntary schemes.

CHAPTER III

The Rise of Health Insurance

Against the foregoing background of the evolution of social security we are now in a position to study the rise of health insurance movements as separate entities, along certain lines distinct in themselves, but merging on all sides with the whole social security framework.

All forms of insurance are outgrowths of the human quest for security and of these forms health insurance is one of the oldest. We have already seen that its beginning can be traced even as far back as Roman times when the *Collegia* had as one of their purposes the provision of funeral benefits. From that time on there is historical evidence of arrangements by which persons, uniting to spread a risk, contributed to form a common fund from which certain benefits were provided on the occurrence of certain events which, like the contributions and benefits, were defined.

Growth

In this present section we intend to deal with the growth of these health insurance associations, dividing the account, for the sake of clarity, into the growth of voluntary and compulsory schemes.

Naturally enough, the voluntary schemes were the first to appear on the scene and were the first to be put into practice, although the advocacy of compulsory schemes made its appearance during the same period. Today we find both types of health insurance in force.

Voluntary Schemes.—Our previous discussions have shown that the guilds of the Middle Ages were one of the first organizations to effectively unite their members for purposes of mutual aid. Some were trade guilds, while others were social or religious guilds. Documents show that the social guilds existed for various purposes but chiefly for the mutual assistance of the members in times of trouble and especially when afflicted with sickness or infirmity.

In the guild of the Blessed Virgin Mary, Hull, which was founded in 1357, we find that each unmarried member paid a yearly sum of two shillings and two pence (a married couple paid the same sum) and the guild ordinances provided that:

If it should happen that any of the gild becomes infirm, bowed, blind, dumb, deaf, maimed, or sick, whether with some lasting or only temporary sick-

ness, and whether in old age or youth, or be so borne down by any other mishap that he has not the means of living, then for kindness sake, and for the souls' sake of the founders, it is ordained that each shall have out of the goods of the gild, at the hands of the wardens, sevenpence every week; and everyone so being infirm, bowed, blind, dumb, deaf, maimed or sick, shall have that sevenpence as long as he lives.

In the guild of Garlekhith in London, founded in 1375, the cash benefit and the contributions were on a higher scale. Each member paid an entrance fee of six shillings and eight pence and a yearly subscription of two shillings, payable quarterly. If his membership was of not less than seven years' standing, he received, when disabled by sickness or old age, a weekly sum of one shilling and one penny. In addition to their entrance fees and yearly subscriptions, the members were expected to make free gifts towards the maintenance of the guild.

In England the social guilds came to a sudden end during the Reformation, but the trade guilds continued to function until the early part of the 19th century, and these guilds also had their schemes for the mutual aid of members. The nature of the benefits granted by the journeymen's guild, for example, is well illustrated by the rules of the Fraternity of Bachelor Journeymen on the Continent, in 1560:

Every brother who becomes disabled, or falls sick, shall receive the sum of $3\frac{1}{2}$ pfennigs a day if he needs it, but if the Lord restores him to health and enables him to take up his work again, he shall repay the money. If his incapacity is prolonged, and if his needs are greater, money shall be lent to him on security, and if he dies the Fraternity shall recoup itself from his estate.

This simple document shows clearly the nature of the rights and duties of a journeyman in these provident institutions, and indicates their concern to come to the assistance of the disabled.

Following the disappearance of the social guilds a new type of mutual-aid association, known as the

Friendly Society, sprang up to take their place. There is evidence that the Friendly Societies existed in a rudimentary form about the middle of the 17th century.

Daniel Defoe, in his *Essay on Projects*, published in 1697, defined a Friendly Society as a "number of people entering into a mutual compact to help one another in case of any disaster or distress fell upon them," and he mentions a sailors' Friendly Society at Chatham.

Part of the activities of these Friendly Societies was the provision of cash payments to sick members, and definite schemes of insurance were gradually developed. As far back as the 18th century the Societies found it necessary to safeguard their funds from the claims of members who were not entitled to benefit.

For many years the Friendly Societies were beset with serious difficulties. Their objects and methods were misunderstood and often misrepresented, and the adoption by many of the more important Societies of a ritual derived from Freemasonry, with secret signs and passwords, was distorted by unscrupulous opponents to arouse popular prejudice against the whole Friendly Society movement.

Another serious difficulty that impeded the progress of the Societies was their lack of legal status. This made their funds vulnerable to fraud, no prosecution being possible except in the names of all the members. In 1850, however, an Act was passed by which Friendly Societies could obtain a certificate of registration and a definite legal position.

Perhaps the most serious difficulty against which the Societies had to contend, however, was the want of adequate statistical data of sickness and mortality experience. But about the middle of the 19th century the darkness was illumined by the genius of a remarkable man, Henry Ratcliffe (1808-77), who is one of the heroes of the Friendly Society movement. He was responsible for the preparation of the Ratcliffe Tables which set out the results of an elaborate analysis of the sickness and mortality experienced by the Society of which he was an executive member during the years 1846 to 1848.

The influence of Ratcliffe on the Friendly Society movement was immense. He has been called the father of Friendly Society actuarial science, and his Tables, which were published in 1850, effected something like a revolution in Society administration. The work he began was continued by his successor Reuben Watson, and by Francis Neison, and culminated in the tables published by Alfred Watson in 1903. The Watson Tables formed the actuarial basis of the British national health insurance scheme.

So with infinite labour and in the face of enormous difficulties the Friendly Society movement grew and prospered and became one of the most beneficent influences in the social life of modern Britain. It was the work, for the most part, of men of humble origin, toiling obscurely without hope of fame or fortune.

Of the benefits provided by the Friendly Societies the most popular has been the funeral benefit. This benefit, apart from its affording a safeguard against a "pauper funeral," appears to meet a profound need of the human spirit, for it is the oldest and most widely spread of all forms of insurance benefit. But the provision of weekly payments for the benefit of members too ill to work was also an important part of the Societies' functions, to which was added by many Societies, as time went on, the provision of medical care.

Compulsory Schemes.—It is surprising to note that compulsory insurance had been advocated even in the early days of the Friendly Societies. Daniel Defoe worked out, in his *Essay on Projects*, a scheme of compulsory insurance for "labouring people." He proposed that in every country a public authority should be established where labouring people should register, pay an entrance fee of sixpence and a quarterly subscription of one shilling, and in return receive certain benefits. Defoe was confident that his scheme would secure the country "against beggars, parish poor, almshouses and hospitals, by which not a creature so miserable or so poor but should claim subsistence as their due and not ask it of charity."

The author of *Robinson Crusoe* was a man of inveterate optimism and he professed himself "willing to think that all men should have enough sense to see the usefulness of such a design and be persuaded by their interest to engage it." But he was reluctantly driven to the conclusion that "some men have less prudence than the brutes" and would make no provision for the future, and he recommended that such persons should be compelled to come under his insurance scheme.

In 1786 another scheme of compulsory insurance was published by the Reverend John Acland, rector of Broad Clyst, Devon. His pamphlet attracted considerable attention, and a Bill based on the plan was introduced into the House of Commons in 1787, but it made no progress.

Neither Defoe nor Acland was successful as a pioneer of compulsory health insurance. Both were in advance of their time. Nor could a measure of compulsory health insurance on a national scale have then been introduced with any hope of success. The actuarial knowledge necessary for such an undertaking was not forthcoming until many years later.

Some tentative beginnings in compulsory health insurance were made, however, in England, as far back as the 18th century. A scheme was brought into operation by an Act passed in 1757 "for the relief of the coal-heavers working upon the river Thames and for enabling them to make provision for such of themselves as shall be sick, lame or past their labour; and for their Widows and Orphans." This scheme, however, was grossly abused by the employers, who deducted excessive amounts from the men's wages, and it was abolished by an Act of 1770. Another rudimentary scheme on a small scale was set up in 1792 by an Act "for establishing a permanent fund for the relief and support of skippers and keelmen employed in the coal trade on the River Wear, in the County of Durham." The Act constituted a benefit society which was managed by 41 "Guardians" indirectly elected by the beneficiaries, each of whom was required to join the Society. This Society was authorized to provide a hospital for the reception of sick members and to allow them sick pay, and provision was made for the relief of the widows and children of members.

But these schemes were insignificant affairs which attracted little attention and apparently led to no further developments elsewhere in England.

In Germany, however, there were important movements in the direction of compulsory health insurance towards the middle of the 19th century. The Prussian Industrial Code of 1845 empowered local authorities to require certain classes of workmen to join provident benefit societies; and by a law passed in 1849 factory owners could be required by the authorities to insure their workmen against sickness, to contribute towards the cost of insurance, and to deduct the workmen's contributions from their wages. In these measures we can plainly see some of the essential features of Bismarck's national health insurance scheme.

In 1854 Prussia made a law that required the formation of provident societies for workmen employed in the mines, smelting works, and salt works. The cost of the insurance was borne by funds raised by the contribution of the workers and their employers, the latter contributing at least half as much as the men.

The local authorities did not make a wide use of their powers to require the adoption of health insurance, and the compulsorily insured workers formed but a small proportion of the working population. Even including the miners they were considerably outnumbered by the members of the voluntary benefit societies, which resembled broadly the English friendly societies.

So far as voluntary insurance had gone it had made good. But it had not gone far enough. Many of the wage-earners failed to take advantage of the protection the benefit societies afforded in time of sickness. Those who insured voluntarily were the most provident and farsighted members of the community: the least provident remained outside, and when disabled became a charge upon public funds or private charity or both.

When in 1882 it was proposed to make insurance against sickness compulsory on a national scale in Germany, the Government justified the proposal on the ground that: "Experience has abundantly shown that the universal adoption of sickness insurance, which must be characterised as one of the most important measures for the improvement of the condition of the working classes, cannot be effected on the lines of the (voluntary) legislation of 1876."

The introduction of a national scheme of sickness insurance, and other forms of social insurance, on a compulsory basis was foreshadowed in the historic Imperial Message promulgated by Kaiser Wilhelm I on November 27, 1881, in which the principles of future social policy were laid down:

The cure of social ills must be sought not exclusively in the repression of Social Democratic excesses, but simultaneously in the positive advancement of the welfare of the working classes . . . In order to realize these views a Bill for the insurance of workmen against industrial accidents will first be laid before you, after which a supplementary measure will be submitted providing for a general organization of industrial sickness insurance. But likewise those who are disabled in consequence of old age or invalidity possess a well-founded claim to a more ample relief on the part of the State than they have hitherto enjoyed. To find the proper ways and means for making such provision is a difficult task, yet is one of the highest obligations of every community based on the ethical foundations of a Christian national life.

Two years later Prince Bismarck introduced his Sickness Insurance Bill. It passed the Reichstag on May 31, 1883, and came into operation on December 1, 1884. Bismarck made no secret of the fact that he intended his measure to be a counter move against socialism, which at that time was making rapid headway in Germany.

Compulsory insurance was introduced in Germany on a comparatively small scale. It applied to industrial workers only, and the number of insured persons formed not more than 10% of the total population. In 1885 the insurance scheme was extended to persons employed in commercial undertakings and later to agriculture and domestic service.

Germany's example of compulsory health insurance was followed by Austria in 1888 and by Hungary in 1891, and subsequently by many other countries throughout the world.

Its Importance in Modern Society

It might be interesting to discuss at this point some of the reasons for the peculiar necessity of health insurance schemes in society as it is constituted today. Two important factors which emphasize the necessity of some sort of general provision for health insurance among almost all classes of a population are the problems of the distribution of medical care and the rising costs of such care.

Two lines of evolution have proceeded apace in present-day society. One has been the enormous increase in sanitary and medical knowledge and the vast improvement in the practical techniques of preventive and curative medicine; the other has been the growing public demand for the right to the enjoyment of health. But along with these advances new problems have arisen.

In the health services, as in industry, there has developed the problem of distribution—how to make the augmented capacities of health services available to the people. Then, too, as we have mentioned, is the problem of cost. Industry has learned how to apply science to large-scale production and how to reduce the unit cost of its products. But medical care is not a machine-made thing; it is primarily a personal service. Improvements in the technology of industry may operate to reduce the cost of material things, but advances in medical science and improvements in medical technique call for longer periods of training for practitioners, greater skills, and more expensive personal services. Progress, which makes medicine more and more valuable to hundreds of millions of people, makes payment of the costs more and more difficult.

Nor are medical costs the only important costs of sickness. When ill health befalls the wage earner and disables him, the consequences may be very serious. When the worker becomes incapable of going about his accustomed labour, he fails to earn an income precisely when his financial needs may be unusually large. Loss of income and medical costs may combine to endanger or destroy the economic independence of the family.

As I. S. Falk says in his *Security Against Sickness*: "The failings in the distribution of medical service and the impacts of burdensome costs upon individual families are no consequences of a depression. They were plainly evident in our days of well-being. They are due to some fundamental weakness in the functional and economic relations between medicine and society."

It is this weakness which health insurance attempts to strengthen by means of its three chief functions, namely, cash benefits (or compensation), benefits in kind (or restoration) and the provision of healthy living conditions (or prevention). By means of compensation, restoration and prevention, health insurance is now in a position to bridge this fundamental weakness in our society.

The acute problem of distribution in many areas throughout the world in the present day is reflected in the changing stress laid upon these three functions of health insurance. In the early days cash benefits were the chief function, but since that time there has been a gradual transfer of emphasis from cash benefits to medical benefits. In other words, from compensation to restoration and prevention.

Its Extent Today

In using the term "today" throughout this study it will generally refer to that period preceding the outbreak of the present war, as there would be no value in discussing conditions as they exist in Europe at a time when the normal functioning of health insurance institutions, or any type of institutions, is non-existent. For this reason, when Czechoslovakia or Poland are mentioned as having health insurance schemes in operation today it must of necessity mean that they possessed such schemes until the time they lost their identity as free and sovereign countries. Apart from the fact that 1940-43 data on the present subject, under the abnormal conditions in Europe, would be of little value, there is the additional fact that such information is almost impossible to obtain. Wherever authoritative information on conditions in Axis-occupied countries has been obtainable such information has been noted in the detailed studies of the separate countries.

Existing Voluntary Schemes.—There are today nine countries which have national voluntary schemes of health insurance. These countries, with the dates when their schemes were instituted or legally recognized, are as follows:

Belgium (1851)	Finland (1897)
Spain (1887)	Iceland (1911)
Austria (1888)	Uruguay
Sweden (1891)	Bolivia
	Union of South Africa (1892)

The above are all the countries which remain of the many which once had national voluntary schemes. Most countries have switched to the compulsory plan. It will be noted from the above list that very few countries have instituted a voluntary system during the present century.

The systems in six of these countries will be studied in detail in Section 1 of Part II. We have been unable to secure sufficient information on the remaining three countries to make a detailed study possible, but a few facts concerning their schemes are given below.

Bolivia.—Bolivia's voluntary scheme operates under a Social Insurance Fund and the latest information is that this Fund is creating a network of hospitals and clinics of its own, in order to make up for the deficiencies in the national health equipment.

Iceland.—Iceland's voluntary sickness funds were legally recognized in 1911. Each sickness fund must comprise a definite district and consist of at least fifty members. Contributions are made solely by members of the funds, although a state subsidy, consisting of 1 krone per member per annum in a town in which a doctor resides, and 1½ kroner in other places, is paid. The funds are required to accept any person between the ages of 15 and 40 whose income is below a certain limit. Benefits include medical and hospital treatment and a cash benefit whose minimum is 50 ore per day and whose maximum is two-thirds the daily pay of the sick member.

Uruguay.—The most important voluntary health societies in Uruguay have applied for recognition by the government as legal entities, but such a course is purely voluntary. The introduction of compulsory tuberculosis insurance, as the first step leading to a generalized health insurance scheme, was proposed in 1942. The state pays no subsidies to the societies.

Palestine.—Works on health insurance frequently refer to Palestine as having a national voluntary health insurance system, but there is little basis for these assertions since the country has no laws whatever relating to friendly societies, etc. The Jewish Workers' Sickness Fund is the only social insurance institution in the country. It is recognized by the authorities, but it does not possess any legal personality nor is its scope national.

Growth of Compulsory Health Insurance.—Germany, as we have seen, was the first country in the world to institute a scheme of compulsory health insurance. Since Germany's initial step in 1883, 32 other countries throughout the world, not counting pre-war Serbia, have followed its lead. Compulsory

plans are at present in operation, therefore, in 33 countries. These countries, with the year in which the plans were instituted, are as follows:

Germany	(1883)
Austria	(1888)
Hungary	(1891)
Luxemburg	(1901)
Norway	(1909)
Serbia	(1910)
Great Britain and Northern Ireland	(1911)
Eire	(1911)
Switzerland	(1911)
Union of Soviet Socialist Republics	(1911 & 1922)
Rumania	(1912)
Esthonia	(1917)
Bulgaria	(1918)
Czechoslovakia	(1919)
Portugal	(1919)
Poland	(1920)
Greece	(1922)
Japan	(1922)
Latvia	(1922)
Yugoslavia	(1922)
Chile	(1924)
Italy	(1925)
Lithuania	(1925)
Netherlands	(1925)
France	(1930)
Brazil	(1931)
Denmark	(1933)
Peru	(1936)
New Zealand	(1938)
Ecuador	
Venezuela	(1940)
Costa Rica	(1941)
Panama	(1941)
Mexico	(1942)

The schemes of the above countries will be studied in detail in Section 2 of Part III.

Proposed Schemes.—Three Latin American countries, namely, Argentina, Colombia and Paraguay, are seriously considering the adoption of compulsory health insurance.

Argentina already has a National Pension Fund, set up in 1934, which makes maternity insurance compulsory for all women employed in industrial and commercial undertakings. The employees pay one day's wages every three months, with an equal sum from employers and an equal sum from the state.

The benefits consist of free attendance by a doctor or midwife and a daily cash benefit equal to actual wages, with a maximum of 200 pesos, during the legal rest period, which is 30 days before and 45 days after confinement.

There is also a movement in favour of the introduction of a general scheme of old age, invalidity, survivors' and sickness insurance for industrial workers, to which the submission of a number of Bills in parliament bears witness.

Colombia has had a government Bill providing for the establishment of a national Social Insurance Fund pending in congress since July 1941. This Bill is based on the experience of Latin American countries and on a report prepared by the International Labour Office at the request of the government, and provides for the coverage of sickness, maternity, industrial accidents and occupational diseases and payment of unemployment benefit. This Bill would benefit all employed persons whose remuneration did not exceed 2400 pesos annually and would be financed by workers' and employers' contributions. In submitting the Bill, the government emphasized that it is not possible to effect decisive progress in the health of the mass of the population without the intervention of social insurance, and that the economic and social situation of Colombia is favourable for the establishment of such a scheme.

In 1942 the Ministry of Public Health in *Paraguay* took up the study of a social insurance plan which would cover sickness, invalidity, old age and death.

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CHAPTER IV

Growth of the Movement in Canada

The subject of health insurance in Canada is not an entirely new one as for the past twenty years or more considerable discussion has been given this subject by various bodies throughout the Dominion. Discussed at first by medical associations in an academic way, labour groups, women's organizations, both urban and rural, health officers, those interested in welfare, and various governments, all have taken an active interest in the adoption of health insurance for the people of Canada.

Owing to the provisions of the British North America Act, health insurance is primarily a provincial responsibility and in 1919 the first active step toward the adoption of such a system was taken by British Columbia when it appointed a Royal Commission to investigate the subject. In 1920 the Ontario Medical Association appointed a committee on health insurance and some years later published a report consisting of a review of the whole question.

Nearly all Canadian provinces and the federal government itself have at various times discussed the health insurance question. Some have taken definite action to inaugurate a scheme, while in many provinces there are institutions carrying on activities which fulfil one or more parts of a complete health insurance program, such as hospitalization insurance, etc. The following pages will discuss some of these manifestations as evidenced in words or deeds in the provinces or federally.

British Columbia

Following the appointment of the Royal Commission in 1919, British Columbia's next contact with the problem arose as the result of a resolution, seeking the appointment of a committee of the Legislative Assembly to inquire into the workings of systems of health insurance and maternity benefits, which was presented to the Legislature in March 1928. A Royal Commission on State Health Insurance and Maternity Benefits was appointed by the province in April 1929 and two reports were published, the final one in 1932.

As a result of this report, a Bill of Health Insurance was drawn up for presentation to the Legislature in 1934, but was withheld pending further study and an endeavour to ascertain public opinion.

Minister of Health's Views.—In 1935 the Honourable Mr. Weir, Minister of Health and Welfare for British Columbia, attended a meeting of the premiers of the provinces in Ottawa, where he presented a

paper on the subject of health insurance. The burden of his remarks was to the effect that the jurisdiction was provincial in character and such jurisdiction should not be disturbed but that the Dominion should contribute to the scheme. In the course of his remarks Mr. Weir spoke as follows:

"There is a question on which public and professional interest in many sections of Canada is being focussed. In fact, certain medical associations and groups of doctors, as well as various industrial organizations, insist that health insurance should be made a federal measure, and to this end as well as for the purpose of delaying the introduction of health insurance measures, they recommend the setting up of a national commission to study and report on a comprehensive public health policy for Canada. So far as British Columbia is concerned I venture to say that we have had all the commissions necessary to provide health insurance data for our guidance.

"My opinion is that it would be a grave error for the Dominion Government, by Amendment to the B.N.A. Act, to relieve the province of the major responsibility in health matters. The true role of the federal government in the health field, it seems to me, is to supply leadership to assist in the promotion of significant health movements, to correlate but not to legislate in health matters now falling within provincial jurisdiction.

"While the provincial control of health is unassailable as a general principle, this is not inconsistent with Dominion action to assist the provinces in the solution of certain health problems. Practically all health problems, like educational problems, have national as well as provincial ramifications. Moreover, the Dominion government should assume a certain general responsibility for the 'peace, order and good government' of Canada, watching over the governments of the various provinces and cooperating with them at all points where cooperation would be in the public interest. Particularly in these days of depression certain health problems have grown almost beyond the powers of the provinces to cope with them.

"From considerations such as these it is fair to argue that in the national interest the Dominion should make certain money grants to the provinces, both to hasten the solution of serious health problems and to iron out the financial inequalities between the various provinces to which they give rise. Although, as the Prime Minister himself has pointed out, it is

not ordinarily a sound principle to give money to people to spend who have not raised it by taxation, there can be no objection to a policy of grants-in-aid subject to carefully formulated conditions such as has been followed in Great Britain with brilliant success for many years."

On March 31, 1936, the British Columbia Legislature passed a Health Insurance Act which was to have gone into effect on January 1, 1937, but which has not yet gone into operation chiefly because cooperation of the medical profession could not be secured. This opposition was owing chiefly to the decision of the Government not to include indigents in the scheme. It also was felt that the financial burden of putting the Act into effect would be too great for the province to bear alone, and its adoption was held in obeyance in the hope that the Dominion might come to the assistance of the province by means of a subvention.

Summary of the British Columbia Act of 1936.—The Act provides that every employee in the province, whose rate of remuneration is not greater than \$1,800 per annum, shall become insured, together with his dependents.

The following classes are exempt: agricultural employees, Christian Scientists, members of industrial medical-service plans who are assured of adequate medical and hospital service in time of sickness. Also, subject to the approval of the Lieutenant-Governor in Council, the following classes of employees may from time to time be exempt: domestic servants, casual employees, part-time employees, and certain other employees in designated industries.

Subject to the approval of the Lieutenant-Governor in Council employees receiving up to \$3,000 per annum may be eligible for insurance benefits if previous to January 1, 1936, they were members of any industrial medical-service plan which, subsequent to the passage of the Bill, ceases to provide adequate medical service for its members.

Provision is made whereby any resident of the province who is not an employed insured person may become a voluntary contributor under the Act, thereby admitting himself and his dependents to its benefits.

To meet the cost of all benefits payable under the Act, as well as salaries, etc., a "Health Insurance Fund" will be created. The employee's contribution, to be deducted by his employer, is set at two per cent of the amount of his remuneration, provided that the amount deducted shall not be less than 35 or more than 75 cents weekly. The employer's contribution to the Fund is set at one per cent of the employee's

remuneration, provided that it shall not be less than 20 and not more than 35 cents weekly.

Where the remuneration of an employee consists in part of board and lodging, etc., the "Health Insurance Commission," to be constituted under the Act, shall determine the money value thereof for the purposes of the Act. Provision is made for such special cases as an employee who has more than one employer or where the former's remuneration fluctuates from time to time. In no such case shall the employee's total annual contribution exceed \$36 or in the case of the employer (or employers), \$18 in respect of any period of 52 consecutive weeks. The Act provides that employers are liable as regards the payment of employees' contributions. Special provision is made in the Act for payment of contributions where the employer is a contractor. Another stipulation is that all monies in the Fund in excess of current requirements shall be properly invested.

The following mandatory benefits are provided:

- (a) The services of a physician when required for preventive diagnostic or therapeutic treatment, including prenatal maternity treatment for women and surgical and specialist services, as may be necessary.
- (b) Necessary hospital maintenance and care in a public ward, including drugs, medicines and dressings, for not more than ten consecutive weeks for any one illness. Provision is made whereby an insured person may avail himself of a semi-private ward if he is willing to pay the difference.
- (c) Necessary drugs, medicines and dressings, provided that the insured person may be required to bear up to one-half the cost.
- (d) Necessary laboratory services, including X-ray, etc.

Further permissive benefits may be provided if the resources of the Fund permit.

Subject to the approval of the Lieutenant-Governor in Council, the Commission may make regulations limiting and more clearly defining the medical benefits to be provided under the Act. It is specified that these shall not include the treatment of tuberculosis, venereal diseases, nervous and mental diseases, etc., when such services are otherwise available to insured persons, free or at nominal charges, through any public or governmental organization. Similarly, the Act proposes to exclude the insured from medical benefits in respect of any sickness or injury when other provision is available, except in case of urgent need.

Sections 18 and 19 prescribe the respective periods of time during which insured employees and their dependents may be eligible to receive benefits under the Act. Section 21 provides that the Commission shall make all necessary arrangements to provide the benefits which insured persons are entitled to receive under the Act, as also for payment of the costs of such benefits. Physicians may be remunerated either by a salary, per capita or fee system, or a combination or modification thereof. Under Section 22, the Commission may penalize physicians, etc., who fail to provide services in accordance with the standards set down. Under Section 23, the Commission may require reports from those providing benefits to insured persons.

The administration of the Act is to be carried out by a Health Insurance Commission appointed by the Lieutenant-Governor in Council, composed of a chairman and not more than four members. The appointment of a technical advisory Council of not more than six persons and a Director of Medical Services is also provided for. The duties and powers of the Commission are set forth and are, generally speaking, subject to the approval of the Lieutenant-Governor in Council. An annual report is required from the Commission.

Employers are required to keep a complete record of their employees and to furnish all necessary information to the Commission, as and when called for. Insured persons who apply for benefits under the Act may be required by the Commission to submit to a medical examination. Refusal on the part of the insured person to submit to prescribed medical treatment may involve suspension of benefits.

On November 2, 1937, the British Columbia Executive Committee of the Trades and Labour Congress strongly urged the provincial government to give immediate effect to the Health Insurance Act of 1936. The committee also recorded its favor for an Act covering all persons, irrespective of salary or other limitations.

In October 1938 the Victoria Retail Druggists' Association endorsed the principle of state health insurance and voiced willingness to accept a contract proposed by the Health Insurance Commission regarding provision of medical supplies.

In the field of group hospitalization British Columbia has had many successful ventures. Directors of the King's Daughters' Hospital in Duncan inaugurated in December 1938 a hospital benefit scheme similar to others which are in successful operation in a number of districts in the province. This particular scheme offers a contract whereby the contract holder, and if he is married, his wife and

dependent children under 21, may secure hospital accommodation and service, including stock drugs, anaesthetics and the use of the operating room and X-ray equipment, for a period of three months of any contract year. The annual payment is set at \$15 which may be paid in monthly instalments.

Kamloops was the first city in the province to organize such a hospital benefit scheme and its plan has proved very successful. Kelowna also has a similar scheme.

Alberta

In 1932 the Legislative Assembly of Alberta adopted the following resolution:

"Whereas, arising out of a resolution adopted by the Legislature, information has been collected and presented on the subject of State Medicine and Health Insurance; now, therefore, be it resolved that this Government is hereby instructed to appoint a commission consisting of at least five members of this Legislature for the purpose of:

- (a) considering and making recommendations at the next Session, as to the best method of making adequate medical and health services available to all the people of Alberta;
- (b) reporting as to the financial arrangements which will be required on an actuarial basis to ensure the same."

As a result of this resolution a Commission was appointed to report on the best method of making health services available to all the people of the province. It submitted a progress report at the 1933 session and its final report at the 1934 session.

The final report contained the following statement:

"Your Commission wishes to represent that the report is final only in so far as the Commission is concerned. Undoubtedly, experience will reveal certain aspects of the question and certain problems that have not been dealt with in this report."

A Health Insurance Bill, based on the recommendations contained in the report, was introduced at the 1935 Session of the Legislature and passed.

This Act was not put into effect owing, it is said, to the fact that the Social Credit scheme proposed to provide annual dividends of \$300 for each person and it was considered that this amount would be sufficient for each one to provide his own medical services.

Summary of the Alberta Act of 1935.—Under this Act the Government is given authority to appoint a Health Insurance Commission of three members. The Act provides that the Commission shall ad-

minister the affairs of the Medical Districts, established under the Act, collect all monies, make disbursements, appoint officers, make regulations, and keep books and accounts.

Provision is made in the Act for the appointment of a Local Advisory Board, consisting of one member from each municipality included in the District. It is proposed that this Local Advisory Board shall meet twice annually. Provision is also made for the appointment of a Local Board of Reference, consisting of the chairman and secretary of the Advisory Board and a member of the municipality which may be concerned in the question referred by the Commission.

The Commission is also given authority to appoint Professional Boards of Reference. These boards will deal with professional matters only, one of the members to be appointed by the Commission, one by the governing body of the profession concerned, and one by the Local Advisory Board. The Act provides that every order and direction issued by such Professional Boards shall be binding and conclusive upon any resident medical practitioner and other professional persons and every institution concerned therein or affected thereby.

Upon the formation of any Medical District, every municipality or improvement district, or part of such, included in such Medical District, is required to take a census and ascertain who are residents and who are income earners, or likely to become such, and the secretary of each municipality or district, or part thereof, is required to make an alphabetical index of such persons. When a sufficient number of contiguous municipalities indicate their desire to be created as a combined Medical District for the purpose of taking a vote, the Medical District is established by the Commission and the vote taken. A majority vote in favour of the scheme of Health Insurance obligates every individual who is eligible under the provisions of the Act for a contribution in support of the scheme.

An "income earner" is defined as any person who is in receipt of any income whatever, temporary or continuous, and whether in cash or in kind. The term "income earner" does not include any female who is a married woman or who is a domestic servant receiving no remuneration for her services over and above her board, lodging and \$12 per month and not in receipt of any other income in excess of \$100 per year. Any male under the age of eighteen years who is a relative of and resides with an income earner and receives no remuneration for services to that income earner over and above his board and lodging, and has no other income, is not regarded as an income earner.

The administrative units may be either urban units, consisting of cities of over 20,000 population,

or combined units, consisting of six to eight municipal districts together with the urban centres included within their boundaries, the total population of the units ranging from 15,000 to 20,000. It is estimated that it would be necessary to set up forty such units (Medical Districts) to cover the province.

Provision is made for the following services:

1. A complete full time preventive health service.
2. All medical services, including those of specialists where, in the opinion of the attending physician, these are required. The patient is given the right to select any duly qualified registered physician practising in the medical district in which he resides, whose services he may desire.
3. All prescribed drugs and appliances, excluding eye glasses.
4. Dental services, excluding replacements.
5. The services of qualified registered nurses where such are necessary.
6. Laboratory services.
7. Public ward hospital service, with the exception that in cases in which the condition of the patient is such as to require private ward service, this may be provided on the order of the attending physician.

The estimated annual cost of providing this service is \$14.50 per capita. The municipality is made responsible for contributing seven-ninths of this sum, or \$11.28 per capita, and the province is responsible for two-ninths, or \$3.22 per capita. These sums are required to be forwarded to the Commission quarterly in advance.

The scheme is predicated on the basis of three persons being dependent on each income. Hence, a contribution of three times \$14.50, or \$43.40 is required, which is divided on the following basis:

State contribution, two-ninths, or \$9.67 per year, or 81 cents per month;

Employer, two-ninths, or \$9.67 per year, or 81 cents per month;

Employee, five-ninths, or \$24.16 per year, or \$2.01 per month.

Persons casually employed at salary or wages are required to contribute one cent per hour for every hour employed. In the case of persons who are not employed on salary, and who may or may not be employers, the State contribution is two-ninths, or \$9.67 per year, or 81 cents per month, and the contribution of the income earner seven-ninths, or \$33.84 per year, or \$2.82 per month.

The municipality is made the receiving agent and an allowance of 2 per cent is made to the municipality to cover the costs of collection. Arrears are to be collected in the same manner as taxes.

Any resident of a medical district who deems himself in need of any of the benefits provided for under the provisions of the Act may consult any medical practitioner or dentist who carries on his practice in the medical district and the medical practitioner or dentist so consulted shall be paid by the Commission for his services according to the tariff authorized by the Commission and subject to the conditions prescribed by the Act or by any regulations made pursuant thereto.

The Act provides that where it is made to appear to the Commission that any medical or other practitioner habitually provides residents with unnecessary attention, treatment, hospitalization, nursing services or supplies, the Commission may either refer the matter to the Professional Board of Reference for investigation, or may itself enquire into the matter and if it is satisfied, either by the report of the Professional Board of Reference, or by its own enquiry, that a medical or other practitioner has been habitually providing unnecessary treatment, hospitalization or supplies, it may by order declare that such practitioner shall not be entitled thereafter to receive any remuneration from the Commission.

The Act provides that the Commission may declare that individuals who make unreasonable or unnecessary demands on the service are not entitled to such service.

The Commission is given authority, with the approval of the Lieutenant-Governor in Council, to make regulations:

- (a) prescribing the procedure to be followed in any proceeding authorized by this Act;
- (b) defining the extent of the benefits or any benefits which any resident shall be entitled to receive under this Act and excluding therefrom any specified service, treatment or the supply of any specified appliance;
- (c) with respect to any matter or thing arising out of or in the course of the administration of this Act, and providing for any event or contingency for which no express provision is made having regard to the intent and purpose of this Act.

The Commission is required, on or before the 15th day of February in each year, to present a report to the Lieutenant-Governor in Council of its transactions during the next preceding calendar year, this report to be tabled at the succeeding session of the

Legislature, or forthwith if the Legislature is then in session.

On January 25, 1938, the Alberta Federation of Labour requested the provincial government to bring into operation the section of the Health Insurance Act dealing with medical aid and hospitalization.

Saskatchewan

As long ago as 1920 in many of the rural areas of Saskatchewan the public had itself set up schemes to provide necessary medical care in their communities. The plan adopted was what was known as the municipal doctor system. As the name implies, this means the engaging of a physician by the municipality on a salary basis, to give the residents of the municipality medical care. A municipality in western Canada is the local unit of government and is an area consisting of 200 to 300 square miles, with the population varying from 1,200 to 3,000. This particular type of service has extended until in 1938 over one-fifth of the rural municipalities in Saskatchewan had their medical services supplied in this way, and approximately one-fifth more had either voted favourably on the scheme or were operating under a similar plan.

In Saskatchewan the Rural Municipality Act, Chapter 34, Section 173, sub-section 38, of 1928-29, provides that the council of every municipality shall pass such bylaws as it may deem expedient for the purpose of making an annual or other grant to a legally qualified medical practitioner to reside and practise his profession within the municipality, or guaranteeing the income of such practitioner in consideration of his residing and practising his profession within the municipality, no such grant to exceed \$1,500 per annum and no such guarantee to exceed the amount required to bring such income up to \$1,500 per annum. The Act provides that the council may submit to the electors a bylaw empowering the council to engage the services of a legally qualified medical practitioner for the municipality at a salary not to exceed \$5,000 per annum. If 25 resident ratepayers petition the council to submit such bylaw to the electors, the council must do so, and after the bylaw has passed, if 25 per cent of the resident ratepayers request that the bylaw be repealed, the council must submit a repealing bylaw to be voted on by the electors.

The agreement between council and doctor usually requires that the municipal doctor act as medical health officer, that all indigent cases within the municipality be given free medical care, and that all resident ratepayers, their families and dependents, be given free medical service. Free vaccination against smallpox and inoculation against diphtheria for both

pre-school and school children are included, and in some municipalities the doctor is required to medically examine all the school children in the municipality once a year. The salary paid varies from \$3,500 to \$5,000 a year, according to the district. Based on \$5,000 a year, it costs about \$3.85 taxation per quarter section per year for medical service.

The success or failure of the municipal doctor scheme depends largely on the doctor employed. Financially, the doctor is much better off because he has no bad debts. From a public health viewpoint, this system next approaches the full-time health unit, and the fact that not one municipality in Saskatchewan which has ever tried the scheme has repealed the bylaw is evidence that it is satisfactory to the people.

In 1934 Saskatchewan amended its Public Health Act so as to include a Board to be known as the Health Service Board, consisting of the Deputy Minister of Public Health and others, to ascertain the needs of the people of Saskatchewan, in respect of hospital, nursing, dental, medical and other health services, the advisability of providing facilities for periodic medical examinations and such other matters as the Board might deem advisable.

In November 1937 the executive committee of the Saskatchewan Trades and Labour Congress requested the enactment of health insurance legislation, endorsing the objective of the State Medicine League in this connection.

As regards group medicine plans, under legislation passed during 1938 the first Mutual Hospital and Medical Benefits Association was formed in the rural municipality of Mariposa. Under the plan adopted there, the Association provides medical service to all members, hospitalization for a maximum of 20 days, dental extractions and physical examinations when requested. Qualifications for membership are approved by the directors and the following fees must be paid in advance: head of family, \$12 per annum; husband and wife, where either is earning a maintenance income, \$20 per annum; employable male person over 18 years of age, \$6 per annum; employable female person over 18 years of age, \$5 per annum; each dependent child under 18 years of age, or unemployable dependent, \$2 per annum. The Association pays for the extraction of teeth, when authorized by medical doctors, and for all medical care. The members of the Association, in addition to the annual dues, are required to pay one-way travelling costs of doctors to their homes at the rate of 50 cents per mile, \$1 a day for hospitalization, \$10 for a major operation, and \$5 for a minor operation. The Association pays the medical and dental practitioners

\$3 per patient per annum for each member of the Association.

Manitoba

Manitoba, like Saskatchewan, has had municipal doctor schemes since 1920. In 1938 nine municipal groups were receiving medical care under the municipal doctor plan.

In 1930 a Joint Medical Service Committee was appointed by the College of Physicians and Surgeons and the Manitoba Medical Association, to study state medical service, but the Committee did not submit a plan.

In January 1938 the executive committee of the Manitoba Trades and Labour Congress and Railway Transportation Brotherhoods expressed the view that the time was opportune to recommend action looking to the establishment of a system of health insurance and urged the provincial government to immediately take the necessary steps to formulate and adopt legislation to this end.

Speaking in 1938, Dr. F. W. Jackson, Deputy Minister of Health and Public Welfare for Manitoba, stated: "Taking into consideration all the medical services now being provided through the auspices of the state, one is safe in saying that from one-fifth to one-quarter of the total population of Manitoba actually are receiving medical care under some form of state medicine or health insurance."

Ontario

As already mentioned, the question of health insurance was first brought to public attention in Ontario in 1920 with the appointment of a Committee on Health Insurance by the Ontario Medical Association. In 1931 this Committee submitted a report which consisted of a review of the whole question of health insurance. A questionnaire was then submitted to the physicians of the province requesting an expression of their opinion and most of them approved health insurance for Ontario.

However, long before this time some forms of health insurance were already being practised. As a matter of fact, there was a practice long established in some parts of Ontario by which some of the earlier physicians were in the habit of arranging to attend to an entire family for a set fee paid annually. We are told that Dr. Elnathan Hubbell, who settled in Brockville as early as 1808 and who practised there until the time of his death in 1850, "adopted the sensible plan of attending families by the year" and the same system was observed by many other early practitioners.

In February 1938 the Ontario executive of the Trades and Labour Congress urged the enactment of legislation to ensure full benefits of curative and preventive medicines to all citizens of the province irrespective of their ability to pay, and the Ontario joint legislative committee of Railway Transportation Brotherhoods recommended that favourable consideration be given to a health insurance measure.

In May 1938 the Council of the Ontario Medical Association rejected a committee report urging compulsory health insurance for all unable to provide medical care for themselves. Drawn up by a committee of nine doctors, the report urged that "all persons unable to provide adequate medical care for themselves should be compelled to belong to the insurance scheme. In other words, it should include those of the low income group and the indigents."

Other forms of medical care, such as experiments in the mining towns of northern Ontario where doctors and hospitalization are provided for employees in company-owned towns, are proving decidedly successful. At Timmins, the Hollinger Employees' Medical Services Association has established an enviable name for the work it is doing. The scheme now covers about 9,300 persons and has a record of successful operations behind it. Mention might also be made of the Windsor Medical Services. The Windsor plan which now has about 4,000 members, covers medical expenses and hospital care only.

Group medicine, by means of which subscribers through payments of a monthly sum are eligible for medical and hospital care, has recently shown marked advances in Canada. One of the major ventures of this type is that of Associated Medical Services Incorporated, with headquarters in Toronto.

Back in 1936 the Civil Service Association of Ontario introduced a plan to the Toronto Academy of Medicine to cover medical and other services on an insurance basis. The next year, the Ontario Medical Association having given the plan its support, an Ontario charter was granted to Associated Medical Services Incorporated as a non-profit organization to provide medical services through pre-payment and on a voluntary basis. This organization started on June 1, 1937, and now has over 30,000 subscribers of whom 18,000 are in Toronto. This plan generally provides for the participation of any registered medical practitioner in Ontario. Any person under 55 years of age residing in a branch area can apply for membership in the Association, choosing his own doctor, and if accepted, becoming eligible after a qualifying period of two months to receive certain benefits covering medical care, hospital care, nursing

and certain medicines and specialized treatment where called for.

This is probably the leading example of voluntary health insurance in Canada. As each member of the Association is allowed to choose his or her own doctor the number of physicians who work with the organization grows as the membership mounts. Membership costs \$2 per month, \$1.75 a month for the first dependent, \$1.50 per month for the second dependent, \$1.25 per month for the third dependent and \$1 per month for the fourth and each additional dependent. The schedule of fees paid physicians is 100% of the minimum of the Ontario Medical Association schedule of fees. In the period 1937-42 a total of \$1,297,674 was collected for payment of medical and hospital services, while \$1,177,394 was disbursed for medical, surgical, obstetrical and hospital care. The average number of monthly applications since the incorporation of the Association has been 627. Associated Medical Services claims that it has demonstrated during its five years of operation that "it is possible to secure the cooperation of the medical profession, the government and the public in budgeting the cost of medical care."

Quebec

Several years ago the Province of Quebec Medical Association appointed a special committee for the study of health insurance, and a report was submitted to the annual meeting in September 1932. The report advocated a system of compulsory health insurance somewhat along French lines.

In 1933 the Quebec Social Insurance Commission reported that "it is the opinion of the Commission that recourse should be had to the subsidized optional regime before the obligatory system, all the more because the subsidized optional regime will be easy to apply since mutual benefit insurance societies already exist and it would be sufficient to make use of them."

The report referred to the excellent work of mutual benefit societies in the province, particularly the National Society of Hospital Treatment (*la Société nationale d'hospitalisation*) which in return for a premium of 80 cents a month, offers its members medical or surgical attention and hospital treatment, but offers no money payments. The Commission was of the opinion a law should be passed authorizing the formation of such societies in order to give prominence to this kind of institution.

Maritimes

Forms of group hospitalization have flourished quite extensively in the Maritime provinces. Perhaps most notable of these schemes is that at Glace Bay, N.S., which has been in existence over 30 years. It

maintains a rate to miners of 30 cents per week for public ward hospital care. This fee covers dependents also. If a private ward is desired there is a 50% reduction in cost. The director of one of the two Glace Bay hospitals has stated that the scheme is giving complete satisfaction to both the hospital and the subscribers.

One of the more recent schemes which has attracted considerable attention is that sponsored by the co-operative movement of the University of St. Francis Xavier, at Antigonish. This group hospitalization plan went into operation in January 1939. The unit is known as the Mutual Hospitalization Group. A family rate of \$2 quarterly was reached as the lowest possible, which entitles members of the group, and their families, to five weeks of ward treatment, to a 50% reduction in the rate for private and semi-private rooms, to free laboratory services and medicines and to a 50% reduction on X-ray and operating room fees.

Moncton, N.B., has a similar hospitalization scheme.

The Dominion

It is true that we have in Canada a great deal of what might be called state medicine. The state provides free medical treatment for the poor or for those unable to pay. The state provides medical officers of health and sanitary officers to prevent epidemics and to inspect water and food supplies. State inspectors supervise the production of milk, meats and other foods for human consumption. The state provides nurses, such as Red Cross nurses, school nurses, travelling clinics, mental health clinics, and in some cases dental treatment.

But despite this state aid many persons are inadequately cared for and for many years the question of health insurance for the Canadian people has been discussed in and out of Parliament. On numerous occasions the subject has been debated in the House of Commons and its adoption urged. As far back as March 21, 1928, the House adopted a motion "that, in the opinion of this House, the Select Standing Committee on Industrial and International Relations be authorized to investigate and report on insurance against unemployment, sickness and invalidity."

This Committee, in the course of their investigations, interrogated witnesses with the object of obtaining information. Among those questioned were Dr. J. G. FitzGerald, Professor of Hygiene and Preventive Medicine, University of Toronto, and Dr. A. Grant Fleming, Professor of Public Health and Preventive Medicine, McGill University, Montreal.

In the course of his remarks Dr. FitzGerald quoted a report for 1927 of the Chief Medical Officer of the Ministry of Health of England and Wales as follows:

"The value of health insurance practice is likewise beyond question. It is an intelligent method of organizing private medical practice for the bulk of the population. Its success depends upon reasonable cooperation between the doctor and his patient. It pays them both for the patient to be kept well, and it is meant that it should also be an education system in which the practitioner is the true doctor and teacher of his client.

"Much sickness may be and is dealt with in insurance practice, and where it cannot be dealt with, the system should act as a clearing house by which the patient is otherwise treated. This method rightly used should be an effective instrument of preventive medicine."

Dr. Fleming quoted Dr. Alfred Cox, Medical Secretary of the British Medical Association with regard to the broad results of the British system of health insurance, as follows:

1. "A greater sense of security in time of sickness on the part of the whole insured population.

2. "A service which, in spite of its incompleteness, gives a large number of the population ready access to medical treatment of a kind superior to what they had in pre-insurance days, and a guarantee as to quality of service, greater than private patients possess.

3. "A greater interest in the question of medical service on the part of the community in general.

4. "A realization that the present service is incomplete and a desire to make it complete for all those at present insured, with an extension to their dependents in the near future.

"So far as the medical profession is concerned there are:

1. "A feeling of greater financial security among the doctors who serve the industrial population.

2. "Certain restrictions on the liberty of the individual doctor in his dealings with his insured patients; these may or may not be inevitable in a system in which a third party, the state, intervenes between the doctor and patient, but they are certainly resented by many doctors and by many patients.

3. "An increasing sense of the collective responsibility of the medical profession for the quality and standard of the service, and

4. "A strong conviction that 'The price of liberty is eternal vigilance.'

This Committee presented a report on June 1, 1928, which, with regard to relative legislative jurisdiction, stated:

That the evidence of the Justice Department makes it clear that the responsibility for such legislation rests on the provincial authorities, it being within their jurisdiction under the provisions of the British North America Act; but that it would be within the power of Parliament to contribute by grant to such provinces as adopted such legislation, following the precedents set in the matter of technical education, highway-construction, and, more recently, the Old Age Pension Act.

On May 1, 1929, the same Committee, in its second report, made the following recommendations:

- (a) That with regard to sickness insurance, the Department of Pensions and National Health be requested to initiate a comprehensive survey of the field of public health, with special reference to a national health programme. In this, it is believed that it would be possible to secure the cooperation of the provincial and municipal health departments, as well as the organized profession.
- (b) That in the forthcoming census, provision should be made for the securing of the fullest possible data regarding the extent of unemployment and sickness, and that this should be compiled and published at as early a date as possible.

The Dominion Council of Health, at its sessions in May 1932, passed a resolution urging that the recommendation contained in clause (a) above be implemented.

The Dominion Government, on June 28, 1935, passed an Employment and Social Insurance Act (Chap. 38, 25-26 George V), authorizing the appointment of an Employment and Social Insurance Commission. Part Four of the Bill sets forth the duties of the Commission in regard to health insurance. The Commission is authorized:

- (a) To assemble reports, publications, information and data concerning any scheme or plan, whether a state, community or other scheme or plan for any group or class of persons, and whether in operation or proposed, in Canada or elsewhere, of providing, on a collective or on a cooperative basis by means of insurance or otherwise, for

- (i) medical, dental and surgical care, including medicines, drugs, appliances, or hospitalization, or
 - (ii) compensation for loss of earnings arising out of ill-health, accident or disease;
 - (b) To analyze and make available to any province, municipality, corporation or group of persons desiring to use the information so assembled for the purpose of providing such benefits or any of them; and
 - (c) So far as may be found practicable so to do, on request by any province, municipality, corporation or group of persons, to examine and report on any such scheme or plan proposed to be put into effect or in effect at the date of such request, and to afford technical and professional guidance in regard to the establishing, working or reorganization of the scheme or plan.
41. The Commission may from time to time submit to the Governor in Council proposals for cooperation by the Dominion in providing any of the benefits enumerated in paragraph (a) of the next preceding section of this Act for such action as the Governor in Council is authorized to take, and may undertake special investigations in regard thereto, subject to the approval of the Governor in Council concerning the scope and nature of each such investigation.

The Employment and Social Insurance Act was submitted to the Supreme Court of Canada to obtain a ruling in regard to its constitutionality. It was found to be unconstitutional, a decision confirmed by the Privy Council of Great Britain upon appeal being made to that body.

The Royal Commission on Dominion-Provincial Relations in its report which appeared in 1940 spoke as follows with regard to health insurance:

The Commission is of the opinion that, owing to differences from Province to Province, medical and hospital services should remain a Provincial responsibility; and that public health insurance, if established, should also be a Provincial responsibility. It does suggest, however, that the Dominion might be in a better position to collect the fees for health insurance, especially if there should be a Dominion scheme of compulsory unemployment insurance or contributory old-age pensions.

Finally in June 1941, by instruction of the Minister of the Department of Pensions and National Health,

the Hon. Ian Mackenzie, a report on deficiencies in the field of public health and medical services in Canada was presented by the Director of Public Health Services of the Department at a joint meeting of the Dominion Council of Health and representatives of voluntary health organizations, at which representatives of the medical profession were present. As a result of this meeting and the previous years of discussion, a study of public health and medical services was undertaken, with the object of drawing up a health insurance plan for this country.

Discussions with the executive committee of the Canadian Medical Association in October 1941 led to the formation of a committee of the Canadian Medical Association to assist the Director of Public Health Services in the preparation of a tentative draft plan of public health and health insurance. This committee was the forerunner of several others representing various groups throughout the country.

On February 5, 1942, Order in Council P.C. 836 was passed, creating the Advisory Committee on Health Insurance, and since that time there has been intensified activity in surveying the Canadian scene, studying the needs of the country and preparing what the Committee believes to be a plan suitable to Canadian conditions.

At a special conference of the General Council of the Canadian Medical Association in Ottawa, on January 18 and 19 of this year, the principle of health insurance was approved. Not only was it approved, but the endorsement was made unanimous by the 73 delegates representing every province in Canada.

The resolution passed by this special conference was worded as follows:

WHEREAS the objects of the Canadian Medical Association are:

1. The promotion of health and the prevention of disease;
2. The improvement of health services;
3. The performance of such other lawful things as are incidental or conducive to the welfare of the public;

WHEREAS the Canadian Medical Association is keenly conscious of the desirability of providing adequate health services to all the people of Canada;

WHEREAS the Canadian Medical Association has for many years been studying plans for the securing of such health services;

THEREFORE be it resolved that:

1. The Canadian Medical Association approves the adoption of the principle of health insurance;
2. The Canadian Medical Association favours a plan of health insurance which will secure the development and provision of the highest standard of health services, preventive and curative, if such plan be fair both to the insured and to all those rendering the services.

CHAPTER V

Growth of the Movement in the United States

Although the United States has passed a Social Security Act, this Act does not provide health insurance for the people. No measure of health insurance has so far been adopted, either by the federal government or any of the states. The enactment of the Social Security Bill in the United States has, naturally, stimulated interest in health insurance as well as in old-age and survivors' insurance and unemployment insurance, which are covered by the Act. This is reflected in federal as well as state fields. At least one federal Bill to aid in the establishment of state health insurance plans has been introduced in each of the last several sessions of Congress. Moreover, a National Health Bill, dealing more broadly with the problems of public health, was first introduced in the 1939 session. This would, among other things, make available federal grants to states having approved plans providing either medical-care benefits or cash benefits for temporary disability.

Legislative attention in the states has been directed in the main toward encouraging local voluntary effort rather than compulsory state action. During 1939 about 285 bills in the health field were introduced in 44 of the state legislatures. These dealt, for the most part, with provision of private voluntary medical services or cash benefits for disability, or with regulation of public or private agencies engaged in the promotion of health activities. Only 19 of them would have provided compulsory state health insurance. Among the 110 bills passed, none dealt with such insurance.

Among the main types of medical care plans now in operation or proposed throughout the United States by the medical profession and other interested agencies, the following may be mentioned:

1. State and County Medical Society Plans, which fall into three main categories—plans to care for the indigent sick, postpayment plans, and prepayment plans to care for the low income groups.

2. Group Hospitalization Plans, designed to furnish hospital services on a prepayment basis.

3. Hospital Insurance Companies, which offer cash benefits for expense due to hospital residence.

4. Flat Rate Plans, whereby an all-inclusive charge is specified for designated services.

5. Industrial Medical Care Plans, of which there are at least 2,000 in operation. These are largely of two main types, one providing first aid and emergency care for employes and supervision of plant hygiene and safety conditions, the other providing more

extensive medical care for employes, and often for their dependents.

6. Medical and Hospital Benefit Organizations, whereby funds are accumulated from members through sale of membership certificates and contracts for the purchase of medical and hospital services.

7. Union Sick Benefit and Fraternal Plans, whereby medical and hospital services are furnished members of a trade union or fraternal order.

8. Group Practice Plans, which afford arrangements whereby physicians cooperate in practice.

9. Student Health Services, which may be compared to industrial health services, with particular emphasis on health education.

10. Rural Medical Care Plans, of which there are two main types: one, health associations which guarantee a physician an annual income as an inducement to locate in the community; the other, Farm Security Administration Plans to provide medical service for low income or destitute farm families.

Group Hospitalization

Group budgeting for hospitalization is not merely an idea in the United States, it is an accomplished fact. Nearly two million American people are now paying their hospital bills through regular monthly payments, equaling a few cents per day per person, to non-profit hospital care insurance plans sponsored as community services by 500 leading hospitals. The enrolment figures of previous years as of July 1 are as follows: 1933, 3,000; 1934, 25,000; 1935, 75,000; 1936, 300,000; 1937, 800,000; 1938, 1,800,000.

At a cost that varies from 50 to 80 cents a month, more than 1,200,000 employees of firms and members of families in the United States have made it possible for themselves to receive the best of hospital care when they need it.

The house of delegates of the New York State Medical Society in 1938 advocated health and group hospitalization insurance for average-income citizens and state aid for the indigent.

Group Medicine

Experiments in group medical care undertaken in the States during the past decade are now proving the merit of the plan and are providing complete medical care for thousands of families in the low income groups. The bulk of the opposition to the group medical service plan and state medicine comes from the doctors themselves. In the States the

governing body of the American Medical Association has opposed the spread of the plan with every weapon at its disposal, from outlawing of the doctors subscribing to the plan to denial of the use of hospitals and services. In the face of such opposition, however, a dozen American cities have seen the birth and successful growth of group medicine. In these cities the general health of the citizens has risen far beyond the previous standards and the pioneering doctors are well pleased with their efforts.

The plan is extremely simple in its operation. One instance is the Ross-Loos Medical Group in Los Angeles. Tired of continually passing the hat for one of their fellow workers in need of costly medical care, workers of the municipal Bureau of Water and Light, after months of consideration and planning, asked two prominent physicians of the city, Dr. Clifford Loos and Dr. Donald Ross, to lay the plans for group medical care. In April 1929 the centre opened, providing complete medical and surgical service for workers and their families—including drugs, dressings, ambulance service and hospitalization—for \$1.50 a month. Phenomenal success followed the experiment—the clinic was enlarged and specialists added to the staff. By 1939 over 18,000 subscribers to the service were on the rolls of the centre.

The same experiment has proved successful in many other cities of the States. The subscriber's fee of \$1.50 per month covers his entire family. Let us suppose that the average family consists of five members—the cost to the individual for complete medical care the year round would be \$3.60. Adequate medical care is thus made available to any income group. Doctors who participate in the scheme now draw a regular salary and need not worry about the financial ups and downs of private practice. True, some doctors will not profit financially by the plan, but there are thousands who would stand to receive a substantially higher income than at present.

In December 1938 the California Medical Association approved a plan for prepaid medical care on a voluntary insurance basis. The plan is similar, except in minor detail, to the Washington Group Medical Association, whose operation precipitated the A.M.A.-Department of Justice controversy. California residents under this plan are able to have full medical, surgical and hospital services for approximately \$2.50 per month for each person.

Medical Attitudes Towards State Medicine

On November 20, 1937, the American Medical Association opened fire on 430 insurgent physicians who advocated that the federal government share

with the medical profession the financial burden of caring for the sick. Private physicians have traditionally reserved this duty for themselves, fearing that "state medicine" would lower their standards of practice. In an editorial in the A.M.A. Journal, the A.M.A., as spokesman for 106,000 physicians, accused the newly-formed group, called the Committee of Physicians, of attempting to discredit the Association to the government. The editorial showed the A.M.A.'s concern at reports that the Committee of Physicians was attempting to set up a medical authority centred in a Secretary of Health in President Roosevelt's cabinet. The statement of policy, issued by the Committee early in November 1937, over the signatures of 430 public health officials, deans of medical schools, and other prominent physicians, substantiated these reports. The committee urged that the government consolidate all federal medical activities in one department and provide public funds to make up the deficits of medical schools, hospitals and physicians in caring for the indigent. The signatures were gathered by Dr. Hugh Cabot of the Mayo Clinic, Rochester, Minn., and eastern associates.

It was on November 6, 1937, that this committee of internationally known physicians made public its "medical declaration of independence," advocating a set of principles and proposals which had been overwhelmingly rejected in June 1937 by the house of delegates of the American Medical Association. These principles and proposals called for recognition by the medical profession of the principles that "the health of the people is a direct concern of the government" and that a "national health policy directed toward all groups of the population should be formulated." The endorsement was regarded in medical circles as the first open revolt against the hitherto unquestioned authority of the ruling body of America's organized medical profession.

Indictment of American Medical Association

The American Medical Association, the Medical Society of the District of Columbia, the Washington Academy of Surgery, the Harris County (Texas) Medical Society and 21 individual physicians of Chicago and Washington were indicted on December 20, 1938, by a federal grand jury for violation of the Sherman Anti-Trust Act. Among the physicians were Dr. Olin West, secretary of the American Medical Association, and Dr. Morris Fishbein, editor of the A.M.A.'s Journal. Action was based largely upon the claim that the District of Columbia Society interfered with operations of the Group Medical Associa-

tion—a body giving medical care under a cooperative plan—by barring membership, consultation privileges, and the right to use certain hospitals to doctors operating the group plan.

The cooperative agency, established in 1937, offered medical care and hospitalization to some 2,000 government employees for \$2.20 each per month. It put its staff of doctors on a salary basis. The District Society, an affiliate of the A.M.A., promptly attacked the plan as leading towards the European-type compulsory insurance system. Dr. Morris Fishbein, as spokesman for the A.M.A., said: "The house of delegates has authorized the board of directors of the American Medical Association to defend the case to the limit."

With regard to the policies of the A.M.A., Dr. Irvin Abell, president at the time, said: "It is a fundamental tenet of the American Medical Association that the poverty of a patient should demand the gratuitous services of a physician. It is also a fundamental tenet of the A.M.A. that it is unprofessional for a physician to dispose of his services under conditions that make it impossible to render adequate service to his patient because to do this is detrimental to the public. Within these fundamental tenets experimentation in new forms of medical practice has not been inhibited . . . The Association has constantly opposed any attempts on the part of the local, county, state or federal governments to make medical care a political issue. The Association has never opposed the principles of insurance, but it does oppose the political administration and manipulation of the insurance organization and the interposition of any outside agency in the relationship between doctor and patient which is fundamental to good medical care."

The other side of the question was expressed in an editorial in *The Nation*: "For years the medical profession, as represented by the A.M.A., has been above the law. It has assumed that it had the right to decide for itself not only matters directly affecting medical care but the economic arrangements under which such care is given. That these arrangements, however satisfactory they may be to physicians, do not provide adequate medical service to the American people has become increasingly evident. The recent National Health Survey showed that one-fourth of the 8,000,000 cases of illness which are disabling for a week or longer each year receive no care from a physician. Among families on relief 30 per cent of cases of this character are untended. For families with incomes of less than \$1,000, the proportion is 28 per cent. Cases of illness, disabling for a week or more, in families with incomes of over \$3,000 receive, on the average, 46 per cent more medical attention than similar cases in families on relief . . . All these moves

(towards voluntary hospital and medical care plans) are hopeful ones. None of them, however, meets the fundamental problem. Few, if any, families whose incomes are less than \$1,000 a year—half the total number of American families—will be attracted by a voluntary plan necessitating payments of \$10 to \$36 a year per person. Yet this is the group which the National Health Survey shows to be sick the most frequently and to have the least medical care. Their needs can be met only by compulsory health insurance or the development of a system of state medicine. Toward either plan the A.M.A. remains unalterably opposed. Doubtless it will continue its opposition as long as the small clique headed by Dr. Fishbein dominates A.M.A. policies."

The indictment of these medical bodies was recently upheld by the Supreme Court of the United States.

Social Security Act in Relation to Health

The general title of the Social Security Act approved by President Roosevelt on August 14, 1935, sets forth the purpose of the Act as follows: "To provide for the general welfare by establishing a system of federal old-age benefits, and by enabling the several states to make more adequate provision for aged persons, dependent and crippled children, maternal and child welfare, public health, and the administration of their unemployment compensation laws; to establish a Social Security Board; to raise revenue; and for other purposes." Grants to the states authorized for maternal and child welfare include assistance in maintenance of maternal and child health services, care of crippled children, child welfare service and vocational rehabilitation.

Under the Public Health Work title of the Act authority is granted for: an annual appropriation, not to exceed \$8,000,000, for the purpose of assisting states, counties and health districts and other political subdivisions of the states in the establishment and maintenance of adequate health services, including the training of personnel for state and local health work; an annual appropriation, not to exceed \$2,000,000, to the Public Health Service for research activities of the Service and for the expense of cooperation with the states in the administration of federal funds to be granted for aid in the establishment and maintenance of state and local health services.

Responsibility for allotment of the \$8,000,000 is placed upon the Surgeon General of the Public Health Service, who must take into account certain

major factors: namely, the relationship of the population of each state to the total population of the country; the financial needs of certain states, or the inability of the states to meet their health problems without financial assistance; and special health problems imposing unusual burdens upon certain states. Allotments are made to the states, and the Public Health Service cannot deal with local authorities either in the distribution of the fund or in consideration of plans for the work. The Act provides that payments to the states from allotments shall be determined by the Surgeon General, subject to the approval of the Secretary of the Treasury, in accordance with regulations previously prescribed by the Surgeon General, after consultation with a conference of the state and territorial health authorities.

It is the aim of the Act, among other things, to stimulate a comprehensive, nation-wide program of public health, financially and technically aided by the federal government, but supported, so far as possible, and administered by states and local communities. The \$8,000,000 is available for the following purposes: aid to state and territorial health departments for strengthening the service divisions and in providing adequate facilities, especially for the promotion and administrative guidance of full-time city, county and district health service; aid through state and territorial health departments for the development of city, county and district departments; training of public health personnel.

For the purpose of allocation of funds under the Act, no state or territorial health department is regarded as properly organized that does not provide as a minimum on a full-time basis the following services: a qualified full-time state or territorial health officer; adequate provision for the administrative guidance of local health services; an acceptable vital statistics service; an acceptable state public health laboratory service; adequate service for study, promotion and supervision of maternal and child health; special services for the study, promotion and guidance of local activities for the control of preventable diseases and for health promotion; services for study, promotion and supervision of environmental sanitation.

Section 803 (a), which makes \$2,000,000 annually available to the Public Health Service, has three main factors involved: (1) the employment of personnel necessary to maintain supervision and guidance over the expenditure of funds annually allotted to the states, and in such manner to render assistance to them in the continuous and steady development of state and local health services; (2) the employment of professional, technical and other personnel necessary to conduct the investigational work of the Public

Health Service; (3) the extension and broadening of the investigative work of the Service in relation to investigations of disease, sanitation and matters related thereto.

It would seem a corollary that the full benefits of the funds allotted to the several states for the promotion of public health cannot be achieved if the public health problems with which these states and local subdivisions have to deal are not studied coincidentally and the information given to the health authorities of the states. The public health problems which are in need of immediate investigation fall in every field of the public health work of the Service. A few of the more important are: stream pollution and sewage disposal, malaria, industrial hygiene, epidemic diseases, venereal diseases and milk sanitation and control.

National Health Conference

Immediately after the passage of the Social Security Act in August 1935, President Roosevelt recognized that many health and welfare activities then considered to be of an emergency nature were likely to become permanent, and that administration of the newly-established responsibilities of government should be effectively coordinated. He therefore created the Interdepartmental Committee to Coordinate Health and Welfare Activities.

This committee undertook to explore its problems through a number of technical committees, one of which was the Technical Committee on Medical Care, which made extensive studies of the health practices and of the needs of the country. It summarized its findings in a report entitled "The Need for a National Health Program." On February 14, 1938, this report was presented to the Interdepartmental Committee which approved it and submitted it to the President. The President recognized the urgency of the needs described in the report of the Technical Committee and suggested that the Interdepartmental Committee lay the Technical Committee's report—including its recommendations—before a public conference.

The National Health Conference was called in Washington in July 1938 to analyse the problems and to discuss the recommendations of the Technical Committee. The committee presented five recommendations for discussion. No resolutions were passed at the National Health Conference; no program was voted on. The five recommendations, which have received wide publicity, are given below. Each is followed, in brackets, by a resume of the attitude of the American Medical Association toward each point, as expressed in the final report of the Reference

Committee of the House of Delegates of the A.M.A. which was unanimously approved at Chicago in September 1938.

1. The first recommendation was that the existing federal-state cooperative program for general public health services and for maternal and child health services, both strengthened under the Social Security Act, be further extended through enlarged grants-in-aid to the states.

(The A.M.A. recommends the establishment of a federal department of health with a secretary who shall be a doctor of medicine and a member of the cabinet, approves the general principles for the expansion of public health and maternal and child health services, and seeks to cooperate in developing efficient and economical ways and means of putting into effect this recommendation, but feels that any expenditure made for the expansion of public health and maternal and child health services should not include the treatment of disease except so far as this cannot be successfully accomplished through the private practitioner.)

2. The second recommendation was concerned with federal grants-in-aid for the construction of needed hospitals and for provision of temporary maintenance grants in the first three years after these new hospitals are built, in order to assist the local communities in taking over the responsibility for using and supporting them.

(The A.M.A. favors the expansion of general hospital facilities where need exists, but feels the hospital situation would indicate that there is at present greater need for the use of existing facilities than for additional hospitals.)

3. The third recommendation called for federal grants-in-aid to the states to help them meet the costs of a medical care program for recipients of relief or public assistance and for other persons with low income who are able to meet the ordinary costs of living but not the extra-ordinary costs of illness.

(The A.M.A. advocates recognition of the principle that the complete medical care of the indigent is a responsibility of the community, medical and allied professions, and that such care should be organized by local government units and supported by tax funds. It recognizes that in some instances federal funds may be needed. The A.M.A. wishes to see established a definite and far reaching public health program for the education and information of all the people in order that they may take advantage of the present medical services available in the country.)

4. The fourth recommendation was presented as complementary to the third and called for grants-in-aid to states to enable them to set up a general program of medical care, either by the use of taxation, or by state health insurance programs, or by a combination of the two.

(The A.M.A. approves the principle of hospital service insurance, which is being widely adopted throughout the country, but says that experience in the operation of hospital service insurance or group hospitalization plans has demonstrated that these plans should confine themselves to provision of hospital facilities and should not include any type of medical care. In addition to insurance for hospitalization the A.M.A. believes it is practicable to develop cash indemnity insurance plans to cover the costs of emergency or prolonged illness. It is not willing, however, to foster any system of compulsory health insurance, being convinced that it is a complicated, bureaucratic system which has no place in a democratic state.)

5. The fifth recommendation proposed that federal action be taken toward the development of disability compensation—that is, benefit payments to insured workers who are temporarily or permanently disabled. This recommendation contemplates insurance against loss of wages on account of disability.

(The A.M.A. unreservedly endorses this principle, as it has distinct influence toward recovery and tends to reduce permanent disability.)

PART III

**NATIONAL HEALTH INSURANCE SCHEMES
IN OPERATION TODAY**

SECTION 1

VOLUNTARY SCHEMES

CHAPTER I

Australia

Voluntary health insurance in the various Australian states is governed by Acts which came into force in the following years: New South Wales 1912, Queensland 1913, South Australia 1919, Tasmania 1888, Victoria 1929, Western Australia 1894.

Administration

The insurance is administered by friendly societies set up by the parties concerned. These societies are registered by a special official appointed by the government of each state, who sees that the constitution of the societies is in accordance with the legislation. Registration is not compulsory in South Australia, Tasmania and Western Australia. Registration is subject to a number of conditions concerning the purpose of the society, its constitution and the minimum number of members.

Financing

Funds are obtained by contributions from the members and from other sources, such as special contributions, interest on investments, gifts, etc. The contributions, which vary in amount from one to two shillings a week for adults, are generally paid into two separate funds, a fund for sickness and funeral benefit, and a fund for medical and administrative expenses.

The fraction of the contributions paid into the first of these two funds varies according to the age of the insured persons and may be from 6d. to 1s. a week. The fraction paid into the second fund generally remains the same during the whole lifetime of the insured person, the usual rate being from 6d. to 10d. per week.

No state subsidies are paid except in New South Wales, where they are intended to meet the cost of

cash sickness benefit, medical attendance and funeral benefit to insured men over 65 years of age and insured women over 60 years of age.

Scope

The conditions of admission to friendly societies are laid down by the rules of each society, and these conditions may refer to the occupation, religion, nationality, diet, sex, age or health of the applicant. In some states the age of entrance is limited by law, and the maximum age is, as a rule, 45 years.

Each state sets a maximum-income figure and any insured person earning more than this amount is not entitled to receive benefits in kind, despite the fact that he is a member of a friendly society. This maximum-income figure averages about £300.

In 1933 over 550,000 persons in Australia were insured with friendly societies.

Benefits

Cash Benefits.—Cash sickness and invalidity benefits are granted on production of a medical certificate of incapacity signed by the doctor of the society, after a qualifying period varying from three to twelve months with different societies. In some societies no qualifying period is prescribed, benefit being payable immediately on joining.

The maximum weekly rate of benefits is fixed as follows: Tasmania £1 1s., Queensland £2, New South Wales £2 2s., South Australia, Victoria and Western Australia each £3.

The rates actually paid by the friendly societies, however, are generally lower than these maximum figures. Benefits are paid during the whole period of incapacity in most societies.

Benefits in Kind.—The societies provide medical attendance and drugs for insured persons and members of their family.

Material for Part III compiled by J. C. Young, Acting Director, Publicity and Health Education, Department of Pensions and National Health.

PROPOSED COMPULSORY SCHEME

In June 1938 the Australian parliament passed a National Health and Pensions Insurance Act which set up a compulsory plan of health insurance to go into operation on September 4, 1939. During 1939, however, the proclamation fixing the date of commencement of the Act was annulled and the Act has never since been brought into operation.

At the present time a new and comprehensive plan of social security, based on recommendations made by a parliamentary Joint Committee on Social Security, is in course of preparation. This new plan includes a system of compulsory health insurance.

Although the 1938 Act has never gone into effect, it is felt that its provisions should be discussed here as it was an interesting attempt to inaugurate a compulsory scheme, which failed because of the objections of the medical profession.

Compulsory social insurance was first brought before the Australian people in 1910 when Sir George Knibbs, the Commonwealth statistician, upon his return from an official visit to several European countries, published a bulletin setting forth the schemes in operation in Europe. The war years intervened, but during the early post-war period the International Labour Office played a prominent part in advocating the introduction of insurance measures protecting workers against sickness and old age.

In Australia proposals were put forward by various committees and in 1923 a Royal Commission was appointed to enquire and report. The Commission reported that it was both desirable and necessary that Australia institute a compulsory system of national insurance which would provide for the payment of sickness, invalidity, maternity and superannuation benefits to insured members. In recommending the compulsory system the Commission stated: "A compulsory basis is recommended, provided the system is supervised by the government, as compulsory provisions can be effectively controlled by a national organization only, and there are no valid reasons why the government should transfer its functions and responsibilities to private institutions."

The fourth and final report of the Commission was presented in October 1927 and in that year a National Insurance Advisory Committee was appointed. This Committee was supplemented in 1928 by an Actuarial Committee which submitted recommendations and a draft Bill. A Bill was introduced in September 1928 but the intervening elections followed by the depre-

sion years resulted in the temporary abandonment of the measure.

In 1934 proposals were again examined by the government which, in 1936, requested from the British government the services of Sir Walter Kinnear, Controller of the Insurance Department of the Ministry of Health and Deputy Chairman of the National Insurance Joint Committee for Great Britain. Sir Walter Kinnear presented his report in June 1937 and shortly afterwards the government was returned at a general election with a mandate to provide national insurance in Australia.

The government forthwith introduced legislation based on the report of Sir Walter Kinnear and the National Health and Pensions Insurance Act was passed by Parliament in June 1937 and assented to on July 5. Its provisions are discussed below.

Administration

Subject to the control of the Minister, administration was to be vested in the National Insurance Commission consisting of three commissioners appointed by the Governor General. In each of the states, district commissioners were to be appointed, the work in the various districts being carried out by an inspection staff.

The Act provided for the establishment of Approved Societies, subject to the Commission, which would administer sickness benefit, disablement benefit and the dependent child allowances. It would be their responsibility to see that the funds were used to the best advantage.

Financing

The financial resources of the scheme were to be secured from the contributions of employers and employees and from funds transferred from the Commonwealth treasury.

The government contribution was to consist of £100,000 annually for the administration of the plan and 1s. per insured person to meet liabilities for health insurance.

The contributions were to amount to 3s. per week for men and 2s. for women, of which 1s. 3d. and 1s. 2d. respectively would go toward the health features of the scheme. These contributions were to be divided equally between the employer and employee. Thus Australia intended to adopt the method of a flat per

capita contribution. Contributions were to be collected by means of stamps.

Scope

The scheme was designed to cover all employees between the ages of 14 and 65 earning up to £365 a year, with no income limit for manual workers. Excepted were employed persons who already came under some form of superannuation and similar plans with some sort of government guarantee. Also excepted were unemployed and unemployables with their dependents, and this feature proved particularly objectionable to many persons, particularly the medical profession.

Benefits

Cash Benefits.—The sickness benefits for men were to amount to 20s. a week and for women 15s. a week, with a time limit of 26 weeks. Juveniles between the

ages of 14 and 16 were to draw benefit to the extent of 5s. a week. Married minors were entitled to the same scale as adults, while for unmarried minors an amount of 15s. and 12s. 6d. was provided for males and females respectively.

For disablement, men were to receive 15s., women 12s. 6d., and these payments would be continued up until the time that the person, through age, became eligible for a pension.

For cash benefits there was to be a waiting period of four days, and a qualifying period of 26 weeks for sickness and 104 weeks for disablement benefits.

Benefits in Kind.—Benefits in kind were to include medical treatment by a qualified medical practitioner and the provision of proper and sufficient medicines and prescribed medical and surgical appliances. The insured person would be entitled to medical benefit while he remained in insurance and, if entitled to a pension on reaching pension age, he would receive the benefits in kind for life.¹

CHAPTER II

Belgium

Belgium has a voluntary insurance system, and the legal status of mutual-benefit societies is based on the Act of June 23, 1894, which revised and amended the Act of April 3, 1851. By an Act of July 30, 1923, these societies were authorized to amalgamate.

Administration

Mutual benefit societies may be set up as occupational or non-occupational funds, or works funds, or associations of persons belonging to a political or other group. They act as free or as recognized funds subsidized by the state, according as they agree or do not agree to conform with certain legal provisions.

The mutual benefit societies and their federations work in conjunction with the General Savings and Pension Fund, which is responsible for the management of the moneys.

Financing

The financial liabilities of the mutual benefit societies are covered by the insured persons' contributions and public subsidies. As a rule, the societies which take the form of works funds receive contributions from employers.

The recognized societies which satisfy the conditions as to organization and working laid down in the Act or in special regulations may receive subsidies from public authorities. The state subsidy is based on membership and the amount of contributions received and is usually about equal to that paid by the insured persons.

Scope

Membership of a recognized mutual benefit society is open to persons of 18 years of age or over,

to minors under 18 years of age, subject to the consent of parent or guardian, and to married women unless the husband objects in writing to the president of the society or a member of the management.

In 1932 there were 1,289,398 persons covered by primary sickness insurance in 3,408 societies, and 3,001,000 insured for family medical and pharmaceutical benefits.

Benefits

Cash Benefits.—The minimum cash sickness benefit includes a daily allowance of not less than 6 francs for men of 18 years or over, 4 francs for women of 18 years or over, and 2 francs for persons under 18 years.

Maternity benefit consists of a lump sum of at least 125 francs for each birth, with a daily benefit of at least 3 francs during six weeks.

Benefits in Kind.—The mutual benefit societies may, in accordance with the size of their membership, undertake insurance against sickness, maternity, tuberculosis, invalidity, old age and death. The nature, rate and duration of benefits granted to members are fixed by the rules of each society. Special regulations fix minimum benefit rates for recognized societies in receipt of subsidies which insure against sickness, maternity and tuberculosis.

Recognized societies in receipt of the state subsidy which organize a medical and pharmaceutical service for members and their families, must guarantee medical and pharmaceutical benefits to the members and their families for a minimum period of two years.

Tuberculosis benefit includes free treatment in a sanatorium for at least three months.

CHAPTER III

Finland

Health insurance in Finland is operated on a voluntary basis and is regulated by the Decree of September 2, 1897.

Administration

The voluntary insurance of workers and salaried employees is administered by mutual aid funds under the supervision of the Insurance Office of the Ministry of Social Affairs. The funds are free to organize their own activities. Most of them are attached to a particular occupation.

Financing

The financial resources of most of the funds are derived from fixed contributions payable by their members. Some of the funds are merely mutual insurance clubs which charge contributions only when necessity arises. A number of works funds are subsidized by the employers. No state subsidy is made to the funds.

Scope

Voluntary insurance is open to workers and salaried employees. Only two funds accept employers as members, and apprentices are not accepted.

In 1932, 65,980 persons were insured in workers' mutual aid funds and 16,300 in other funds.

Benefits

Cash Benefits.—In case of sickness, members receive daily cash benefit for a period of two to six months. The benefit rate varies in the different funds.

Maternity benefit is granted by only one fund. Most of the funds grant a funeral benefit.

Benefits in Kind.—About one-half of the funds grant medical treatment, but only a few of them pay the cost of medicines.

Spain

In Spain, as far as can be ascertained, health insurance is voluntary and is conducted through mutual benefit societies whose activities are based on the provisions of an Act of 1887 respecting freedom of association. In recent publications on health insurance there are several inferences that Spain has adopted a compulsory system, but aside from its compulsory maternity insurance scheme we have been unable to verify these claims. However, we have no information on the Spanish system since the abolition of the Republic, and it is quite possible that General Franco has instituted some compulsory measure although the poverty of the war-stricken country would make one doubt such a move.

Compulsory maternity insurance was established by a legislative decree of March 1929.

Administration

Voluntary health insurance is undertaken as a rule by mutual benefit societies having the character of trade union funds, works funds, occupational funds, denominational funds or local public funds. The largest number of societies belong to the last-mentioned class. These institutions are subject to certain measures of supervision on the part of the provincial authorities and the central insurance and public health authorities.

Maternity insurance is administered by the National Provident Institution and the district funds collaborating with it.

Financing

The funds of the voluntary societies are derived from contributions from the insured persons, contributions and subsidies from the employers, and, in some cases, financial assistance from the public authorities. The assistance of the public authorities is in no way guaranteed and varies from one province to another. In practice, the state assistance to certain funds takes the form of reimbursement of expenses.

The financial resources of the compulsory maternity insurance scheme are derived from an annual contribution of 7.40 pesetas from all insured women between 16 and 50 years of age; an employer's contribution, amounting to 7.60 pesetas a year for each insured woman in his employment; and state subsidies, including a grant of 50 pesetas for each confinement, a grant towards nursing allowances, and an annual contribution varying with the amount of money at the state's disposal for the establishment of maternity and infant welfare institutions.

Scope

All persons complying with the conditions of admission fixed in the rules of the voluntary institutions are eligible for membership. These vary with the different institutions and refer mainly to the sex, age and state of health of the applicant. As a general rule, the age of admission is limited to a minimum of 16 and a maximum of 40 to 45 years.

Under the maternity insurance plan, insurance is compulsory for all women wage earners and salaried employees covered by the compulsory workers' old-age pension scheme, irrespective of their nationality and civil condition. This means that all women workers between 16 and 50 years of age employed in industry in general, agriculture, and the public services, whose annual remuneration does not exceed 4,000 pesetas, are covered. Women homeworkers are also covered, but women employed in domestic service are excluded.

Benefits

Cash Benefits.—The benefits guaranteed under the rules of voluntary societies usually include a daily cash benefit intended to cover a part of the loss of earnings. While certain societies grant only benefits in kind, others have been established on purpose to provide cash benefits. The general tendency at present is to provide for the granting of both benefits in kind and cash benefits.

The cash benefit under maternity insurance is fixed at 15 pesetas for every quarterly contribution paid by the insured woman during the three years preceding the first week of the statutory rest period. It is paid in respect of every confinement and is granted during the six weeks preceding and the six weeks following the confinement (the statutory rest period). To be entitled to this benefit the woman must observe the statutory rest period and must have completed a qualifying period of 18 months in insurance before the confinement.

A nursing benefit of 5 pesetas a week is also payable during a period of ten weeks.

Benefits in Kind.—Because of the nature of the voluntary system with its various organizations, benefits vary considerably, but most of the mutual societies provide medical treatment and medicines or institutional treatment.

The maternity insurance scheme provides benefits in kind which include medical treatment and medicaments, and attendance by a midwife or in a maternity home.

CHAPTER V

Sweden

Sweden's health insurance scheme is a voluntary state-subsidized plan. Voluntary insurance schemes were regulated by an Act of 1891 which was superseded by an Act of 1910. A new system, however, was established by a Royal Order of June 26, 1931, to which all insurance institutions were to conform by January 1, 1935.

Around 1930 the whole question of compulsory health insurance was made the subject of a study by the government and the conclusion was reached that it should not be recommended for adoption.

Administration

The 1931 Order divided the recognized voluntary societies into two groups, local and central. A local fund is as a rule competent for the area of a commune, or a number of neighbouring communes, and should have at least 100 members. A central sickness fund should be competent for one or more provinces, or one or more towns not administered by a provincial council. Insured persons domiciled in the area of a local fund belong to that fund. The central funds have two classes of members: the members of the local funds within the area of the central fund, and the direct members, that is, persons domiciled in localities within the central fund's area but without a local fund.

It is the duty of the central sickness funds to provide benefits for insured persons who have exhausted their rights to benefit from their respective local funds.

This voluntary scheme is supervised by the state through a special section of the Social Board.

In 1939 there were about 1,200 health insurance funds in Sweden.

Doctors are paid by fee per attendance.

Sweden's voluntary societies are similar to those in Denmark, but the Swedish system has never proven as successful as was the Danish voluntary plan.

Financing

All expenses of the Swedish scheme are covered by payments by the insured persons and state subsidies.

Regular contributions of the members are fixed in such a way that, in conjunction with other resources of the fund, they can be deemed sufficient to cover current expenditure, including administrative expenses, and to constitute a reserve.

The state subsidies consist of an annual fixed subsidy, a daily sickness subsidy, a medical attendance subsidy and a maternity subsidy.

The annual fixed subsidy to the local funds amounts to 1.50 kr. in respect of sickness allowance for each insured member, and 1 kr. for each other member. The subsidy to the central funds amounts to 1.50 kr. for each member also belonging to a local fund, 3 kr. in respect of sickness allowance for each insured direct member, and 2 kr. for each other direct member.

The daily sickness subsidy amounts to 50 ore for each day for which the fund has paid a sickness allowance of at least 1 kr. or provided for hospital treatment.

The subsidy for medical attendance is equal to half the benefit paid by the sickness fund, in the form of repayment of the expenditure of its members on medical attendance, medicines, etc.

The maternity subsidy amounts to 1 kr. for each day for which the fund has paid a maternity allowance of at least 2 kr. or provided for treatment in a maternity home. A midwifery subsidy, equal to half of the expenditure on attendance by a midwife, is also payable.

Scope

Voluntary health insurance is open to every male or female person between the ages of 15 and 40. The maximum age may be raised to 50 years by the fund's rules. It is a necessary condition for admission, however, that applicants should be in good health and free from any disability which entails a considerable degree of medical treatment. No person may belong to more than one recognized sickness fund.

Persons with a taxable income of over 8,000 kr. a year may not insure against the cost of medical treatment.

The sickness funds have a membership of about 1,300,000 out of a total population of 6,300,000.

Benefits

Cash Benefits.—Cash sickness benefit is granted in every case of sickness causing incapacity to work, or for the cure of which the doctor prescribes complete rest from work. The rate of the benefit for each member is fixed when he joins the scheme, and the fund may take steps to insure that it bears a reasonable relation to the member's earnings and financial situation. Unemployed persons and married women are not eligible to receive cash sickness benefits. As a rule, the rate of benefit may not exceed 6 kr. a day. The period during which the insured person is entitled to this benefit must be fixed at not less than two years.

In the case of hospital treatment at the expense of the fund, the fund reduces the benefit by a sum equal to the hospital expenses but not by more than half for persons with dependents.

A maternity benefit must be paid by recognized sickness funds to women members who have been voluntarily insured for 270 days immediately preceding confinement. This allowance is equal to the cash sickness benefit granted to the insured person, but may not be less than 2 kr. a day. It is paid for not less than 30 days, of which not more than 14 should fall before confinement.

A number of recognized sickness funds also contribute to funeral expenses.

Benefits in Kind.—The funds are required to refund two-thirds of the expenditure of sick persons on medical attendance, including the doctor's travelling expenses. Funds may grant medical benefit to the children under 15 years of their members.

If the sick person's condition necessitates hospital treatment, admission to and treatment in a state, provincial or communal hospital may be substituted for part of the repayment of the doctor's charges. This hospital treatment provided by the state and municipalities is highly developed in Sweden.

The obligation to provide full medical benefits was supposed to come into force on January 1, 1938, but we have been unable to determine whether such a scheme has gone into operation.

In case of childbirth, attendance by a midwife or treatment in a maternity home is allowed if the person concerned has been insured under the scheme for at least 270 consecutive days immediately before confinement.

A number of funds allow their members optional benefits in the shape of medicines and the like, treatment in convalescent homes, nursing, etc.

CHAPTER VI

Union of South Africa

The organization of friendly societies which conduct voluntary health insurance in the Union of South Africa is based on the Friendly Societies Act of 1892. These societies are the only institutions in the country to bring insurance against sickness and death within the reach of workers and other persons of small means.

Administration

Insurance is administered by the societies. These institutions are not required to submit to state supervision, but may do so voluntarily by registering under the Friendly Societies Act. Registered and unregistered societies thus exist side by side. All societies are obliged, however, to furnish annual statistical returns to the Office of Census and Statistics.

Twenty-eight per cent of the total number of societies in the Union are registered.

Financing

The funds required to cover the cost of benefits are derived exclusively from the contributions paid by the members. Each society fixes its own contribution rates.

Scope

The friendly societies are organizations based on private initiative and they are therefore entitled to fix in their rules the class of persons authorized to enter insurance.

Benefits

Cash Benefits.—As far as cash benefits are concerned, all the societies have adopted the system of a flat rate. Funeral benefits are also provided.

Benefits in Kind.—Medical attendance and drugs are provided by all the voluntary sickness societies. Certain of these societies also provide their members with additional benefits such as the cost of operations, specialists' fees, the cost of spectacles, the cost of extraction of teeth and the cost of surgical appliances.

PROPOSED COMPULSORY SCHEME

Although no legislative action has been taken to establish compulsory health insurance in the Union of South Africa, a great deal of study and investigation on the subject has been carried on over a period

of years and it is quite possible that such a scheme will be instituted in the near future.

In 1935 a Departmental Committee of Inquiry on National Health Insurance was set up and its recommendations were published in August 1936. This report recommended separate health insurance plans for urban, rural and native areas and a compulsory scheme was considered advisable only for the urban areas. Because of the deep amount of study which this report gave to the question, and because such a plan may be instituted at some future date, the report's recommendations concerning the urban areas are given below.

Administration

The compulsory set-up envisioned by the report would be administered by a central board of management, composed of an equal number of representatives of the state, the employees and the employers. There would also be district boards, with a local medical committee serving each.

The general practitioner service would follow the lines of the British scheme. The fund would enter into a contract with the South African Medical Association for the supply of general practitioner service. There would be an annual capitation fee of 9s. for insured persons with incomes below £180 per annum and each dependent, and of 13s. for insured persons with incomes of from £180 to £400 per annum and each dependent. A similar contract on a capitation basis would be entered into for specialists' services.

Financing

There would be eight wage classes, the contributions and benefits in each class to be uniform. In the wage group covering insured persons with incomes of from £320 to £400 per annum, the weekly contribution would total 5s. 6d., 4d. coming from the state, 2s. 7d. from the employer, and 2s. 7d. from the insured. In the low wage groups the employer would contribute a higher proportion than the insured.

Under this proposed plan the contributions would work out at something like 14½% from the state, 49% from the employers and 36½% from employees.

All the costs of administration would be borne by the central fund. The total cost was estimated at £5,300,000 per annum.

Scope

Insurance would be compulsory for all employees earning between £60 and £400 per year.

Benefits

Cash Benefits.—There would be a 26-weeks qualifying period for cash benefits, which would vary according to the wage group in which the person was insured. The benefits within each group would be set at a flat rate, but with supplementary allowances for the wife and dependent children. The full benefit would be payable for 26 weeks, with another 26 weeks on half benefit.

The hospital benefit under this scheme would consist of a cash payment not exceeding 9s. a day to insured persons and their dependents.

The maternity benefit would consist of a lump sum to the wife of an insured man, and a lump sum plus a

weekly benefit for four weeks following confinement if the woman is herself insured. This benefit would have a qualifying period of 26 weeks.

There would also be a funeral benefit on the death of the insured or his wife or any children under 16.

Benefits in Kind.—Dependents would be covered for benefits in kind with no qualifying period for such benefits. These benefits would include treatment by a general practitioner, for the insured, his wife and any children under 16; attendance by a general practitioner during the pregnancy of an insured woman, or the wife of an insured man; the supply of drugs and medicines, together with curative appliances, according to a list laid down by regulations; specialist treatment; and the hospital benefit, as outlined above, except for those in the lower wage groups who ordinarily receive free hospital treatment.

The report also recommended that a dental benefit be included as soon as possible.

SECTION 2

COMPULSORY SCHEMES

CHAPTER I

Austria

An Act of 1888 established a system of compulsory health insurance in Austria for industrial and commercial workers. Salaried employees were brought under the scheme by an Act of 1926 and in 1928 protection was extended to agricultural and forestry workers.

Administration

There are four principal types of health insurance institutions for industrial and commercial workers, namely, territorial funds, works funds, guild funds and mutual benefit or association funds. Each fund must be localized or occupational.

Affiliation to a territorial fund is compulsory for all persons liable to insurance employed in the area of the fund if they are not insured against sickness in some other fund established in accordance with the provisions of the Act.

The supervision of funds is entrusted to the federal government and the local administrative authorities. The Ministry of Social Administration is the supreme authority for all state activity in connection with the supervision of the funds.

For insured persons in the manual workers' class the domiciliary doctors are districted and salaried. In other classes the insured person can choose his own doctor.

Agricultural sickness funds in each province administer the scheme for agricultural and forestry workers. There are similar funds in each province to administer the salaried employees scheme.

Financing

Originally, the contributions covering the cost of insurance were fixed according to wage classes, the total weekly contribution being as a rule one-half the average daily wage of the wage class. This half was divided between employer and insured, the employer paying one-third and insured two-thirds.

In 1935, however, a single contribution, equally shared by employer and insured and covering all four branches of social insurance, was established.

Scope

Austrian compulsory health insurance covers manual workers and salaried employees in commerce, industry, mining, agriculture, and personal services.

Temporary and occasional workers are excluded by the Act, while state employees are covered by a special scheme.

Sixty-six per cent of the total population was covered by health insurance in 1932.

Benefits

Cash Benefits.—The rate of cash sickness benefit is equivalent to from 66% to 80% of the basic wage. It ranges from .86 schillings to 4.20 schillings per day (.75 schillings for salaried employees). There is a waiting period of three days but, in the case of industrial and commercial workers, if incapacity continues for four days or longer, benefit is paid in respect to the whole period of incapacity, including the first three days. Cash benefits are paid for 26 weeks or, if the person has been insured for 30 consecutive weeks, for 52 weeks.

Unemployed persons retain their right to benefits.

There is also a maternity benefit, nursing benefit and funeral benefit.

Benefits in Kind.—Free medical treatment is given, including expert consultations and hospital treatment, for a maximum of 52 weeks providing insured has been covered for 30 consecutive weeks, otherwise 26 weeks. Medical treatment may or may not be given to the whole family of the insured, depending upon the society of which he is a member.

Salaried employees receive medical attendance for an unlimited length of time unless the patient is receiving hospital treatment, in which case the right to benefit expires after 78 weeks for any one illness.

Some insurance societies have special clinics for venereal diseases.

CHAPTER II

Brazil

Brazil's social insurance scheme was instituted in 1931 and extended in 1932. Two marked tendencies have been apparent in the Brazilian social insurance movement during the past two years, namely the unification and concentration of the insurance institutions, and the development of health insurance, by introducing it in those institutions which do not cover the risk of sickness at all or extending the services of those institutions which already provide some form of medical care. The first-mentioned tendency has resulted in the issue of a series of regulations designed to impose on all insurance institutions the same types of benefits, the same scale of contributions, and the same methods of collecting them.

In March 1941 the National Labour Council submitted to the Ministry of Labour a plan for the reform of the insurance institutions. This plan provides for a unification of benefit provisions and for the fixing of contributions at rates between 4 and 6 per cent of wages in accordance with the actuarial valuations.

In June 1941 the government appointed a committee to consider legislation for the universal introduction of compulsory health insurance, the commission consisting of representatives of the Ministries of Agriculture, Labour, Education and Health.

Administration

The compulsory sickness funds in Brazil are under the supervision of the National Labour Council.

In July 1942 a medical advisor was appointed to the social insurance section of the National Labour Council, with the duties of supervising and directing the social insurance medical services, promoting uniformity and formulating standards for economical and efficient administration.

Financing

The Brazilian schemes are financed by contributions from the insured persons, an annual contribution from undertakings and a welfare tax.

Scope

The original Brazilian scheme of 1931 made insurance compulsory for the staffs of public utility undertakings and wage-earning or salaried employees in mines. Coverage was extended to seamen by the 1932 legislation. At the present time workers in industry, commerce, road transport and banking, stevedores and merchant seamen are also included.

The insurance institutions, which comprise 76 establishment funds and six national institutes, have a membership of more than 2,000,000 manual and non-manual workers, or over 40 per cent of the working population, excluding the agricultural workers.

Benefits

Until recently the only benefits granted in case of sickness were benefits in kind, these being granted also to members of the insured person's family. They include medical treatment, hospital treatment for 30 days and medicines at low cost.

Of the six national institutes several have their own medical services which they are extending and improving. For example, the Commercial Employees' Institute was reorganized in 1940, rules being laid down for the establishment of a medical service to include medical, surgical, pharmaceutical and dental treatment, and the certification of incapacity for the purpose of claiming cash sickness benefit. This medical service must also organize systematic and periodic examinations of insured persons and collect statistics on the incidence of diseases among insured persons by regions and occupations. The institute already possesses 45 dispensaries spread over the various states of Brazil.

The National Labour Council plan of 1941, which was mentioned above, provides for the maintenance of the medical services in those institutions where they already exist and for the grant by all institutions of cash benefits in case of sickness lasting more than 30 days. The plan also envisages the possibility of financing medical and maternity benefits by means of an additional contribution. As a result, during the past year or so cash sickness benefits have been introduced with a time limit of 52 weeks.

CHAPTER III

Bulgaria

Compulsory insurance in Bulgaria against the risks of accidents, occupational diseases, sickness, maternity, invalidity and old age is governed by the Social Insurance Act of March 6, 1924.

Administration

Health insurance is administered by a single institution, the Social Insurance Fund, attached to the Directorate of Labour and Social Insurance of the Ministry of National Economy. The fund is administered by state officials, but representatives of employers and insured persons sit on the pension boards and on the auditing board of the Fund.

The advisory body of the Ministry is the Superior Labour and Worker's Insurance Council, consisting of 42 members, of whom 16 represent the public authorities, eight the employers and eight the insured persons. Eight are specialists in insurance questions and two represent the medical profession.

The Insurance Act is administered locally by the labour inspectors.

Financing

The resources of sickness and maternity insurance consist of the contributions of the insured persons, the employers and the state, the amount varying with the wage class in which the insured persons are classified. Within each class the insured person, the employer and the state contribute equal amounts.

In 1933-34 a total of 35,663,712 leva were expended in cash benefits and medical assistance.

Under Bulgaria's voluntary insurance scheme, which is open to certain persons not covered by the compulsory scheme, contributions are made by the insured person and the state, the insured's contribution being double that made by the state.

Scope

Compulsory insurance applies to all wage-earning and salaried employees employed in state, public or private establishments, undertakings or estates.

Voluntary insurance is open to independent handicraft workers, persons engaged in commerce, farmers and members of the liberal professions whose annual income is not more than 50,000 leva, and also to officials of institutions belonging to the state or local authorities.

Certain classes of temporary workers, such as mowers, reapers, etc., are exempt from compulsory insurance.

Members covered by the Social Insurance Fund in 1933-34 totaled 251,268.

Benefits

Cash Benefits.—A daily cash benefit from the first day of sickness, at a rate varying with the wage class to which the insured person belongs, is payable if the insured person has paid his contributions for at least eight weeks.

A daily cash maternity benefit is also paid for six weeks preceding and six weeks following confinement. This is payable if the insured woman has paid her contributions for at least 16 weeks before her confinement.

In case of death, following sickness, a funeral benefit amounting to 50 times the daily basic wage of the deceased is paid.

Cash invalidity benefits are also granted to an insured person who has lost more than 50% of his working capacity, provided he has paid at least 156 weekly contributions. The invalidity pension consists of a basic amount varying with the insured person's wage class.

Benefits in Kind.—Medical, hospital and surgical treatment, and provision of medicine for nine months in a year are provided if the insured person has paid his contributions for eight consecutive weeks.

Insured women are entitled to the services of a midwife and doctor during confinement.

CHAPTER IV

Chile

A compulsory system of health insurance was established in Chile in 1924 with the creation of the Social Insurance Fund, which came into operation in 1925. Contributions began to be collected in May 1925, and provisions of the Act began to be applied in November of that year.

When the system was introduced in 1925 it was with the sole object of providing curative treatment, but since 1933, when an amendment to the Act was passed, it has been altering its orientation in the direction of prevention. In 1938, with the passage of the Preventive Medicine Act, it was transformed into a scheme frankly preoccupied with the prevention of disease. The object of the Preventive Medicine Act was to organize medical examinations for the insured population and to provide for the treatment and maintenance of persons suffering from tuberculosis, syphilis and circulatory disorders in their curable stage.

In Chile the social security laws cover all the principal physical risks, and the basis of the entire scheme is health insurance.

Two vast reforms are now pending in Congress, the first tending to integrate the medical service of health insurance with the hospital system into one medical assistance service, curative and preventive, and the second modernizing and amplifying hospital equipment and the production of indispensable pharmaceutical supplies.

Administration

The insurance scheme is managed by the Social Insurance Fund with various social insurance institutions operating under it. For purposes of organization of the medical service, the country is divided into two zones, North and South, each under the charge of a Senior Medical Officer.

The employer registers his workers on special forms provided by the Insurance Fund and the self-employed insured person registers himself.

From 1925 to 1931 medical care was furnished on the basis of free choice of doctor by the insured person. Since then, however, the medical service has aimed at the substitution of group for individual practice. A network of clinics, established in the

towns, is staffed by teams of general practitioners and specialists. Based on a clinic as their center, there is a circle of rural medical posts, served by a nurse or apothecary and visited regularly by a doctor.

By 1937 the Social Insurance Fund had acquired autonomy, with all health insurance services under its control. Medical attention is now organized throughout the country by means of dispensaries belonging to the Fund where the insured are treated by salaried medical officers. In 1940 the fund had 207 dispensaries, 367 first-aid posts and 142 rural medical stations, with a medical staff of 2,698.

The Social Insurance Fund is responsible for the supervision of benefits while the state, through the Social Insurance Department, sees that social insurance legislation is properly complied with.

In localities where the Fund has not yet established its own clinics and dispensaries, it entrusts the treatment of the insured to the public welfare authorities with whom it concludes a yearly contract. But by now, in every important town, a polyclinic has been instituted. Polyclinic doctors are permanent officials paid by salary. They work two hours a day at the polyclinics and are allowed private practice in their spare time. Doctors employed in the rural medical service are paid a salary and travelling expenses.

The Preventive Medicine Act is administered by the social insurance institutions, all of which were giving full application to the provisions of the Act by 1941.

Thus in Chile the risks of sickness, maternity, invalidity and old age are all covered by some legislative scheme and administered through a single institution, namely, the Social Insurance Fund. Health insurance was established categorically as the basis of the system.

Financing

There is complete financial centralization of health insurance. The worker contributes 2% of his total weekly wage, including remuneration in kind, the employer 5%, and the state 1½%, in order to finance the social security set-up. The employer's 5% includes a special contribution of 1% for the financing of the Preventive Medicine Act provisions. The self-

employed worker pays $4\frac{1}{2}\%$ of his annual income and the state contributes an equal amount. In the mining districts the contribution of each of the three parties is increased by 1%. In consequence, the average contribution by the state works out at 1.8% of the annual wages of insured persons and is calculated as a lump sum.

Scope

The Manual Workers' Compulsory Insurance Act of 1924 made social insurance, including health insurance, compulsory for all persons under 65 years of age employed in manual labour without distinction of occupation and excluding only those individuals whose earnings exceed a prescribed maximum, at present fixed at 12,000 pesos (normally about \$1,440) a year. Non-manual workers are protected by other Acts.

Thus the social insurance institutions protect the health of the wage earners, including agricultural workers, the civil service, salaried employees in industry and commerce, and certain other groups such as jockeys and trainers, bank clerks, the mercantile marine, municipal day workers and employees and members of the armed forces. At the present time about 1,500,000 persons are protected.

Chile is the first American country to extend the benefits of health insurance to rural areas.

At present the family of the insured is not covered under the provisions of the Act. In 1942, however, there was a congressional enquiry with a view to a complete reform of workers' insurance, extending the medical benefit, curative and preventive, to members of the insured worker's family, whereby 70% of the total population would be covered.

Benefits

Cash Benefits.—Under the Chilean health insurance system the cash benefits consist of sickness benefit, maternity and nursing benefits, preventive rest benefit, and funeral benefit.

The cash sickness benefit amounts to 100% of wages for the first week, 50% for the second week, and 25% thereafter until recovery, with a maximum time limit of 52 weeks. There is a four-day waiting period.

The maternity benefit consists of 50% of wages for two weeks before and two weeks after confinement, while the nursing benefit amounts to 25% of wages for not more than eight months.

The preventive rest benefit, which is provided for by the Preventive Medicine Act of 1938, is granted

to curative cases of tuberculosis, cardio-vascular disease and syphilis. This benefit, if abstention from work is indicated, is granted as soon as the disease is diagnosed without waiting for actual incapacity to set in. It is of unlimited duration and is equal to the full wages of the insured.

The funeral benefit amounts to a lump sum payment of 300 pesos.

Benefits in Kind.—The benefits in kind fall into three classes:—

1. Medical aid in dispensaries, hospitals, health centres and other establishments of the Fund or at the home of the patient, and the therapeutic requisites necessary for the care of the insured person from the first day of his illness, for a maximum period of 52 weeks. Medical aid includes medical, surgical, dental and pharmaceutical services.

2. Medical attendance during pregnancy, at confinement and during the period following confinement of the insured woman or wife of an insured man, as well as complete care of the child up to two years of age.

3. Early diagnosis and preventive measures through periodical examinations, as provided for by the Preventive Medicine Act.

Chile is the first and only country in the world to provide periodical medical examinations. The Chilean fund is now examining about 250,000 persons a year. These systematic and periodical health examinations performed by teams of doctors have shown that there is a large number of individuals who are ill, but unaware of it, and have brought to light forms of tuberculosis, syphilis and circulatory disorders which were hitherto unnoticed. In this way it has been possible to apply adequate curative treatment in good time. From 1938 to 1941, 432,390 persons were examined, 71,046 of which were found to be suffering from one or more of the three diseases covered by the Preventive Medicine Act. Among those examined, there were on an average 8% suffering from syphilis, 6% from tuberculosis and 4% from lesions of the cardio-vascular system.

Insured persons have the option of extending benefits in kind to their families by means of an additional payment of 5% of their wages without contributions from either the employer or the state.

The socio-medical aspects and benefits in kind have come to receive more consideration than cash benefits as a result of the evolution of the Chilean scheme.

CHAPTER V

Costa Rica

At the instance of the government and with the approval of Congress, a social insurance scheme was established in Costa Rica on November 1, 1941, covering the risks of sickness, maternity, invalidity and old age, and provision is made for the eventual introduction of family medical care and survivors' pensions.

At present the scheme is being put into force only in certain parts of the country and as regards the risks of sickness and maternity and funeral expenses.

Administration

The scheme is administered by the Social Insurance Fund. The Fund is managed by a board of directors, comprising representatives of the government, manual and non-manual workers and employers, and the law contains provisions for securing the autonomy of the Fund.

Financing

The scheme is financed by contributions from insured persons, employers and the state. For the manual workers' branch, the contribution is fixed at 5½% of wages from the employer, 3½% from the worker and 3% from the state, making 12% in all. For the private employees' and public servants' branch, the total contribution is 14½% of salaries, distributed as follows: Employees, 6% plus half the first month's salary and the amount of the first

month's increase whenever salaries are raised (these two additions are estimated to be equivalent to 1%), the state, 2%, and the employer, 5½%, the state being deemed to be the employer where public servants are concerned.

For the present, as the Fund is only covering a reduced number of risks, the contribution is reduced to 6% of wages, that is to say, 2½% from the employer, 2½% from the insured and 1% from the state.

Scope

The scheme applies to all manual workers, private employees and public servants whose remuneration is less than 3600 colons a year.

Benefits

All physical risks are covered and the Fund is organizing medical, curative and preventive assistance. Special importance is assigned to sickness and maternity insurance, the benefits of which include general and specialist care, hospital treatment, medicines and cash benefits. With a view to the prevention of disease and the conservation of health, the law has established compulsory periodical examinations for all insured persons and compulsory treatment for certain kinds of disease, such as tuberculosis and venereal diseases.

CHAPTER VI

Czechoslovakia

Czechoslovakia inherited a system of compulsory health insurance covering salaried employees from the old Austro-Hungarian Empire. An Act of 1919 established the compulsory system for this group throughout the new Republic. The Act of 1924, amended in 1928, extended the scope to workers.

Administration

There are many insurance societies in Czechoslovakia, all of which are subordinate to the Central Social Insurance Institution which administers pension insurance. In this way, medical benefits of health insurance and pension insurance are integral parts of one whole. Supervision of enforcement of the Acts is exercised by the Ministry of Social Welfare.

As a rule, there is no free choice of doctor. The general method of payment of physicians is on a per capita basis. In some districts, however, doctors are on a salary basis.

Financing

Ten wage classes are established and the contribution toward health insurance is a definite proportion of the average daily wage, which must ordinarily not exceed 4.8%. The rate of contributions is fixed for each society by the Central Social Insurance Fund.

The total contribution is shared equally by the employer and the insured.

The state pays no subsidy.

Scope

The Act of 1924 made insurance compulsory for every person in the Republic who works under an agreement of service or apprenticeship, and not by way of subsidiary or occasional employment, and for

all non-manual workers employed in private undertakings. Workers engaged in marine or inland navigation and homeworkers are also included.

Persons insured compulsorily for at least three months and who leave insurable employment may continue to insure voluntarily. Other persons outside the scope of compulsory insurance may take out voluntary insurance on certain conditions.

In 1936, out of a population of approximately 15,000,000 there were 7,000,000 persons insured. About 2,000,000 of these were compulsorily insured persons, with their 4,000,000 dependents also covered and, in addition, there were about 1,000,000 self-employed persons and miners, the latter coming under a special compulsory scheme.

Benefits

Cash Benefits.—The daily cash sickness benefit amounts to about two-thirds of the daily wage. Under certain conditions this amount is increased. Benefits are payable from the fourth day of incapacity and are continued up to 52 weeks. There is no provision for a qualifying period.

Insured women receive a cash maternity benefit equal to the cash sickness benefit for six weeks before and six weeks after confinement. There is, as well, a nursing benefit, equal to half the maternity benefit, for mothers who nurse their children themselves, up to the end of the twelfth week after confinement.

A funeral benefit equal to 30 times the daily wage of the insured is also granted.

Benefits in Kind.—Free medical treatment, drugs and other aids are provided to insured persons and their families from the beginning of the sickness for its duration.

Maternity care includes obstetrical treatment for insured women and the wives of insured men.

CHAPTER VII

Denmark

A voluntary subsidized health insurance scheme was brought into existence in Denmark by an Act passed in 1892. In 1921 compulsory invalidity insurance for all "unpropertied" persons insured under the health insurance scheme was established. ("Unpropertied" persons are those falling below a certain fixed economic level.)

In 1933 a Social Security Measure and a Public Assistance Law were passed. This legislation made compulsory invalidity insurance universal, and health insurance became a complicated hybrid of compulsory and voluntary principles of social insurance with an admixture of a "preferred" type of relief. The old-age pension system is still non-contributable, but no old-age pension can ever be obtained by a person who evades his legal obligations with respect to health insurance.

Generally speaking, the 1933 legislation sees to it that every Danish citizen of appropriate years shall become at least *potentially* insured against sickness, and shall pay a specific annual sum for the privilege.

Administration

Government supervision of the health insurance scheme in Denmark is restricted to insuring that the various mutual-aid societies comply with the benefit requirements, remain financially sound, and guarantee membership to anyone in passable health who desires it. In other respects insuring societies are allowed to manage their own affairs as they choose without government interference.

The government's supervisory office is the Directorate of Health Insurance Societies, and there is a central council of Registered Societies. These Registered Societies are mutual-aid societies which are offered several types of government subsidy towards the cost of their health insurance benefits, on condition that they register for government supervision, meet certain requirements in their policy, and offer benefits of prescribed minimum standards. The societies are grouped into District Federations for medical care and their arrangements must be approved by the Minister of Social Affairs. District Federations are in turn members of a Central Union covering the entire country.

One unusual feature of the Danish plan is the fact that this Central Union has cooperative agreements with corresponding unions in Norway and Sweden, and by this means provision is made for the transfer of insured persons from one country to the other.

In addition to the Registered Societies which receive subsidies on account of their "unpropertied" active members, there are non-subsidized Health Insurance Associations "Continuation Funds" for the better-to-do, or "propertied" class. Although not subsidized, these Associations are also subject to state supervision and control.

With improved income, that is, as they pass from the "unpropertied" to the "propertied" class, members must give up their active membership in Registered Societies but they may become active members of a Health Insurance Association.

Hospitalization in Denmark is simplified by the fact that hospitals are governmental and supported by taxes, like our public schools, and hospital care, as it does in Britain, includes medical and surgical attention by the staff.

In 1936 there were 1,609 societies registered for health insurance, the largest having about 240,000 members. There are eighteen Health Insurance Associations covering the whole country. (These Associations do not directly provide medical care but partially reimburse their members for medical expenses.)

Doctors are paid on the fee or capitation basis, depending on the locality, although the capitation basis is the more popular.

Financing

The government grants subsidies to approved mutual-aid societies, that is, the Registered Societies, but these subsidies are available only on behalf of "unpropertied" members, in other words, industrial wage earners or other persons with incomes and accumulations below stipulated amounts. It is estimated that these subsidies amount to about 54c. per year per "unpropertied" members. The direct government subsidies amount to more than 40% of the members' dues. No subsidy is granted in respect of administrative costs or expenditures on drugs.

By a 1921 amendment, societies are reimbursed by special subsidies for three-quarters of the additional expense entailed by illness of physically handicapped members.

The commune also has a share in meeting health insurance expenses in Denmark. The hospitalization costs, met by the commune, over and above what is paid by the societies for treatment of their members, is more than double the government's actual contributions. Communes are not allowed to charge societies more than 50% of the usual hospital rates. The commune must also pay for medical, hospital and cash benefits for the additional 13-week period granted to needy or unemployed insured persons.

No part of the cost of health insurance in Denmark is met by the employer, as such, although employers do contribute to the cost of compulsory invalidity insurance.

Owing to the nature of the Danish system, under which citizens may insure with any Registered Society, some giving greater benefits than others, the amounts paid by the insured vary widely according to the amount of cash benefit and other benefits desired. The average weekly contribution paid by the insured member in 1936 was 0.41 krone (about 11c.).

Passive "contributing" members pay a small sum (2 kroner to the age of 25, after that 2.50 kroner) as a premium. No benefits are payable to the passive contributing member.

Arrears, because of unemployment or other calamities, need not interrupt the insured person's protection, as the commune is obliged to keep up dues when the insured, because of such circumstances, cannot afford to pay them.

Scope

By the 1933 legislation, every person between the ages of 21 and 60, unless already insured, must seek either active ("participating") or passive ("contributing") membership in a Registered Society or a Health Insurance Association. If he or she is able to make any contribution towards self-support and is not actually ill when the application is made, membership cannot be refused. Persons who fail to comply with the 1933 provision that all must register with an insurance fund and contribute lose their right to old-age pensions and are subject to a fine.

As already mentioned, citizens are divided into "unpropertied" and "propertied" classes for purposes of health insurance. The government fixes each year, by reference to statistical data on wages and the cost

of living, the income limit and the property limit set up for the determination of "unpropertied" as distinguished from "propertied" persons. The objective is that the limits of income fixed for the "unpropertied" group shall correspond with the annual earnings of a skilled worker employed full time. In 1936 the income limit was set at 4,200 kroner (\$1,134) in Copenhagen, 3,600 kroner (\$972) in towns, and 2,800 kroner (\$756) in rural areas. The maximum figure for property owned was set for the entire Kingdom at 14,000 kroner (\$3,780) for breadwinners, and 9,500 kroner (\$2,565) for others.

All persons must take out either "passive" or "active" membership. "Unpropertied" persons must insure either actively or passively with a Registered Society, while "propertied" persons can insure passively with a Registered Society or a Health Insurance Association, but if they desire active membership, they must join either a Health Insurance Association or a special section of a Registered Society which receives no subsidy. A Health Insurance Association must admit all persons between the ages of 14 and 40, who are "propertied" and who comply with other requirements in respect to health.

Passive members can, up to the age of 60, if they become "unpropertied", have their status changed and become active members. Also, at any time before the age of 40, though remaining "propertied" and still not eligible for active membership in a Registered Society, they can demand active membership in a Health Insurance Association.

By the original legislation, Registered Societies had to accept anyone in passable health who desired membership. Persons suffering from incurable or chronic diseases were to be admitted only if the rules of the society permitted it, and many did. Such members were not to be entitled to benefit during periods of the special handicapping disease, but were to be insured against all other types of illness. However, by a 1921 amendment, societies are required to admit a physically handicapped person to full membership and unconditional benefit if such persons are able to make any contribution towards self-support.

Under the Danish law, a member's children, under 15 years of age, are covered for medical and hospital benefits as well as the member himself. The wife of an insured member is expected to be insured in her own right, and she does not derive any direct benefit from her husband's insurance.

The scope of Denmark's health insurance system may be gauged from the fact that in 1936 there were

2,100,000 "unpropertied" persons over 15 years of age insured, which was 77% of that age group. Together with the 800,000 children who were entitled to medical and hospital care, this constitutes approximately 88% of the Danish population, in contrast to 40% in England who are receiving insurance medical benefit. In addition, the Health Insurance Associations for the "propertied" persons had an additional 112,000 members in 1936, and the State Railway Health Insurance Association some 38,000 more.

Benefits

The most significant feature of the Danish system has always been its emphasis on hospital and medical care. A continually increasing percentage of total expenditures has been devoted to such benefits in comparison with the cash benefits paid.

Cash Benefits.—For the cash sickness benefits there is a qualifying period of six weeks which, in the case of "unpropertied" persons, is dispensed with in case of accident. There is also a waiting period of three days; that is, cash benefits are not paid for the first three days of illness, and societies are permitted to set a seven-day waiting period. Benefits are granted for 13 weeks in the year and also for another 13 weeks in the case of needy members. The cost of this second 13-week period, as well as the payment of dues during unemployment periods, is guaranteed at the expense of the commune without the usual penalizing effect of loss of civil rights which was imposed on poor relief recipients.

Thus provision is made for 26 weeks in the year, but there is a maximum of 60 weeks in a three-year period. The member who draws 60 weeks' benefit in three successive years has his active status suspended for at least a year.

No cash benefit is ever payable unless income during the illness is either cut off or reduced, nor is it payable in case of a compensated industrial injury, although regular medical benefit is granted.

Daily cash benefits ordinarily must not be less than 40 ore, which is the price of two quarts of milk in Copenhagen, nor more than 6 kroner (\$1.62), which is about 30% more than a farm labourer's wage. In no event must they exceed 80% of the customary income. A society's rules may provide that cash benefit be reduced during hospitalization.

By the 1921 Amendment to the legislation, maternity benefits are required, including both cash allowances for 14 days after childbirth and medical

care, when necessary, during confinement. There is a qualifying period of 10 months for maternity benefits. These benefits provide a cash allowance equal to the regular cash sickness benefit. Free midwife assistance and medical attendance are also guaranteed. Women who are required by the Factory Act to abstain from work for four weeks after childbirth receive a further cash allowance equal to about half the minimum factory wage. This allowance is continued another two weeks if the mother stays away from work to nurse her child. The same cash allowance is paid for eight weeks before confinement to women working in industries which are listed as especially detrimental at that stage of pregnancy.

As in the British scheme, childbirth is not recognized as an illness, but necessary medical attendance at confinement and delivery is included in the insurance, as a separate maternity benefit. Such attendance is deemed "necessary" if, in the opinion of the medical officer, such medical aid is required. A midwife, nursing assistance for the mother and child, and the necessary dressings, supplies, etc., must also be provided by the insurance society.

Benefits in Kind.—The necessary minimum benefits are granted, as in the case of cash benefits, for a total of 26 weeks in the year, and these benefits include medical care and hospital treatment for the member and his children under 15 years of age. Other benefits, such as free medicine, massage, medicinal baths, home nursing, etc., are permitted under the regulations, but are not required. Some societies provide specialists' services as well as family doctor attendance, and most of them pay part or all of the cost of drugs and surgical appliances. The qualifying period for benefits in kind is the same as that for cash benefits.

No pharmaceutical benefits are required under the regulations, except the payment of three-quarters of the cost of insulin, liver compounds, eucortone, etc. Hospital care includes sanatorium care for tuberculosis.

All urban societies and most of the rural ones provide a dental benefit consisting of a contribution towards the cost of such treatment. The insured pays some 20% to 50% of the cost, depending upon the society of which he is a member.

Passive members receive no benefits, either cash or medical, but by paying their small contributions are in a position to take out active membership whenever they wish to do so and thus become eligible for benefits.

CHAPTER VIII

Ecuador

Ecuador has had a social insurance scheme for some years and in 1942 a new law was passed reforming the country's social insurance system. The risks covered under the scheme include sickness, maternity, invalidity, old age, death, industrial accidents and occupational diseases.

Administration

The working of the existing insurance funds, namely, the Civil Pension Fund and the Insurance Fund for Private Employees and Wage Earners, is supervised by the National Insurance Institute, which has the power to draw up or amend the rules and financial estimates of the two funds. Its approval must also be obtained for the annual accounts and the actuarial valuations, and it is empowered to amend the agreements and decisions of the funds and to revise, on appeal, their sentences in cases of disputes with their members. There is no appeal from the decision of the Institute.

Scope

According to the new law of 1942, insurance is compulsory for private employees, wage earners and public employees, while the National Insurance Institute is empowered to extend the scope of insur-

ance to agricultural workers, domestic servants, home workers and temporary workers.

No maximum or limit of remuneration is prescribed in connection with liability to insurance. The law itself lays down only general principles and leaves it to the National Insurance Institute to fill in the details.

Benefits

Provision is made for the grant of benefits, both in cash and in kind, to insured persons. The rate of cash benefits is to be prescribed later, while the benefits in kind will continue to be provided by the existing medical services, that is to say, a network of polyclinics and dispensaries which in 1940 provided attention for 130,000 contributors at a cost of about 2,000,000 sures.

According to the projects which the National Insurance Institute used in the preparation of the regulations, the cash sickness benefits would amount to 40% of remuneration, and both these benefits and medical, surgical and pharmaceutical treatment are to be granted for a maximum period of 26 weeks. Invalidity pensions may be granted to insured persons who have at least five contribution years to their credit.

CHAPTER IX

Eire

Compulsory health insurance in Eire was instituted by the same Act which established the system in Great Britain, namely the National Insurance Act of 1911. Although Eire's system has developed on its own lines, in some ways, especially in relation to medical treatment, it retains many of the features of the British system, particularly the flat rate principle for cash benefits. In other words, the benefits are provided without relation to previous earnings.

In 1934 the system, as far as pertained to Approved Societies, was amended, and in 1942 the financial system on which it was based was modified in order to make available revenue for additional benefits.

Administration

In 1934 the government abolished the system of Approved Societies established by the British National Insurance Act and set up in their place a single National Health Insurance Society. This Society took over the assets and liabilities of all the Approved Societies and is managed by a committee consisting of nine persons elected by the insured, three employers' representatives appointed by the Minister for Local Government and Public Health, and three trustees similarly appointed.

Financing

The state pays two-ninths of the cost of benefits and of local administration and the whole cost of central administration.

A flat per capita contribution is made by the insured, with, in the case of men, an equal contribution coming from the employer. Weekly payments are set at 4d. from employer and 4d. from insured for men, and 4d. from employer and 3d. from insured for women.

Scope

Insurance is compulsory for all employed persons aged 16 and upwards, with the exception of non-manual workers whose annual remuneration exceeds £250, casual workers employed otherwise than for the purposes of their employer's trade or business, unpaid apprentices and unpaid children of the employer, and public servants and others entitled to equivalent benefits.

In 1933 Eire had 473,766 persons covered by health insurance.

Benefits

Cash Benefits.—Until 1942 only cash benefits were provided. In order to be entitled to these benefits the beneficiary must be continuously insured for a period of 26 weeks with actual payment of 26 contributions. He is then entitled to benefit at the reduced rate, which consists of 9s. weekly for men and 7s. 6d. weekly for women. After 104 weeks of insurance and the payment of 104 contributions he is entitled to benefit at the full rate, which is 15s. for men and 12s. for women. There is a waiting period of three days for the cash benefit, and payments are made for a total of 26 weeks.

There is also a maternity benefit for which the beneficiary or her husband must have been continuously insured for 42 weeks with actual payment of 42 contributions. The maternity benefit consists of a lump sum, payable on confinement, at the following rates: insured woman, £4; wife of an insured man, £2.

An insured woman who marries loses all her acquired rights to benefits and, if she remains in insurable employment, must complete afresh the qualifying periods for the several benefits. In compensation for the loss of her acquired rights, she is granted a lump-sum marriage benefit, the amount of which varies with the duration of her insurance and the number of contributions paid by her.

If the society, after the quinquennial actuarial valuation of its assets and liabilities, is found to possess a surplus, it may use that surplus for the provision of additional sickness, disablement and maternity benefits, and for paying part of the cost of dental, ophthalmic, hospital, etc., treatment. These benefits are only available to persons who were members of the Society at the date of the valuation.

Benefits in Kind.—Until 1942 the only benefits in kind provided by the National Health Insurance Society were those resulting from the use of surplus funds, as mentioned above.

The additional benefits under the 1942 Amendment will, it is expected, include payment of part or the whole of the cost of dental and hospital treatment, ophthalmic treatment, glasses, etc. Insured persons will continue to obtain ordinary medical care at their own expense or, if this is beyond their means, to use the free facilities afforded by the public dispensaries.

CHAPTER X

Esthonia

Esthonia is another of the countries created by the Treaty of Versailles which inherited a system of health insurance and has developed it on a compulsory basis in the intervening years. The Estonian Acts providing for compulsory health insurance were passed in 1917 and 1920.

Administration

Insurance is administered by works funds with at least 500 members and by joint funds for several undertakings, each having competence for a specified area. The total number of funds in 1933 was 28.

The funds are managed exclusively by representatives of the insured persons and are supervised by five insurance offices, one for each district, presided over by justices of the peace.

The central supervisory authority is the Insurance Council.

Financing

The contribution varies with the actual wages of the insured person, the amount being fixed by a general meeting of the insurance fund. An exception to this system is, however, allowed and the rules of the fund may provide that the rate of contribution shall be fixed according to categories instead of calculated as a percentage of each member's wages. The management of the fund then lays down, subject to the provisions of the rules, the method of classifying the members and of transferring them to another class when their wages have changed. The worker's contribution may be from 1% to 2% or, for small funds, 3% of wages.

The contribution is shared equally between the insured and the employer, but the cost of medical treatment is borne solely by the employer.

No government subsidy is paid.

Scope

Persons engaged in industrial undertakings, mines, inland navigation, tramways and buildings, and small masters are covered, but coverage does not apply to any undertaking employing less than five

workers, unless such undertaking is brought within the scope of the Act by the authorities. Municipal and certain state workers, governed by special Acts, are also included, as are aliens and persons employed by the sickness funds.

Workers in agriculture, the merchant marine, commerce, domestic servants and homeworkers are exempt, as well as state employees, other than those covered by special Acts. Casual labourers on jobs lasting a week or less are also excluded.

Benefits

Cash Benefits.—Cash sickness benefits vary between one-half and two-thirds of wages. Within these limits the sickness funds may fix the rate of benefit, taking account of family responsibilities. The rate is fixed once a year by the general meeting of the fund. There is no qualifying period to become eligible for the benefit, but there is a waiting period of three days. The time limit is 26 weeks, or 30 weeks in case of a relapse.

A cash maternity benefit is granted to women if they have been members of a fund for at least three months before confinement. It amounts to 50% of the basic wage and is payable for two weeks before and four weeks after confinement.

Funeral benefits are also provided.

Benefits in Kind.—Benefits in kind are granted from the first day of sickness and as long as the patient is a member of the fund, but for not more than 26 weeks a year, or 30 weeks in the case of relapse, when the sickness entails incapacity for work.

Medical attendance is granted at the expense of the employer, but funds may themselves organize benefits in kind, the employer paying contributions thereto not exceeding 2% of the wages of the insured.

First aid in cases of sudden illness, dispensary and hospital treatment, including maintenance, and obstetrical treatment, as well as medicines and necessary appliances, are provided.

The funds may grant medical assistance to members of the insured person's family under the heading of optional benefit.

CHAPTER XI

France

France has had long experience with voluntary insurance against sickness, as such insurance received legal status by the law of July 15, 1850, and the organic decree of March 26, 1852. On April 1, 1898, a mutual-aid insurance law was passed which regulated the operations of these societies. By 1930 the mutual-aid insurance societies numbered 22,470 with 6,596,000 members.

The French compulsory health insurance scheme went into operation in 1930, as the result of an omnibus measure which was enacted in 1928 and amended in 1929 and 1930. It came into force July 1, 1930. This set up a compulsory system applicable to industry, commerce and agriculture, not only of health insurance but also of old-age and invalidity insurance and a limited form of survivors' insurance. Under it there are two distinct insurance schemes, one applying to workers in commerce and industry and to domestic servants, and the other limited to agricultural occupations.

This 1930 scheme was revised by a "décret-loi" in October 1935.

Administration

The French plan operates under the control of the Ministries of Labour and Finance and the consultative Superior Council of Social Insurance. For administrative purposes, France is now divided into regions instead of departments, all the funds in a region being joined in a union of funds which serves, among other things, as a primary reinsurance fund for its members. Behind these unions stands a Central Guarantee Fund.

Both cash and medical benefits are administered by the mutual-aid societies, when approved as official insurance funds. Supplementary departmental insurance funds are also provided to conduct the insurance of persons entitled to insurance who have failed to join one of the approved societies.

Each health insurance fund (society) affiliates itself with an invalidity insurance fund. The worker is free to choose his health insurance fund only.

The management of each fund is vested in a board of management consisting of at least 18 members, not less than half being insured persons elected by the general meeting of the insured, six being representatives of employers chosen by employers affiliated to the fund, and the remainder being doctors ap-

pointed on the recommendation of the medical association.

The French scheme provides absolutely free choice of doctor. The doctor who treats an insured person does not receive remuneration either from the insurance organizations, as does the insurance doctor in Denmark, or from the governmental authorities, as in Britain, but is paid directly by the insured, who then receives from the insurance societies a fraction of the doctor's bill. Under the French scheme the doctor and patient determine between them the cost of the services, but the insured receives only 80% of the amount set forth in the "tarif de responsabilité" as the appropriate fee for the type of medical service rendered. Thus if doctor and patient arrive at a figure higher than the tariff fee, the patient then receives less than 80% of the actual cost of services from his society.

Financing

The state provides a subsidy which varies in amount with the reduction in poor relief expenditures, but which averages about 140,000,000 francs annually.

The amount of contributions is based on a percentage of wages, 8% being the figure, 4% from the worker and 4% from his employer. This premium covers not only health insurance benefits but maternity, old-age and invalidity benefits as well. The employer acts as the collecting agency.

The above percentage rates apply to workers in commerce and industry. In the case of agricultural workers, a flat rate of contributions is set for sickness, maternity, death, invalidity and old-age benefits. The contributions are divided equally between insured and employer, and, for children under 16, total 144 francs per year, for women, 192 francs per year, and for men, 240 francs per year.

Scope

All wage earners in industry and commerce, whether manual workers or non-manual employees, who are between the ages of 13 and 60 and whose annual earnings are at least 1,500 francs (\$99) but not in excess of specified maximum amounts are covered by the French scheme. The specified maximum is supposed to correspond roughly to the

full-time wage of a skilled worker, and varies with the locality and the family obligations of the insured. It ranges from 15,000 to 25,000 francs.

Agricultural workers are covered by a special compulsory and contributory scheme. Voluntary insurance is open to small farmers, share croppers, etc., as a supplement to the compulsory insurance covering agricultural employees.

In general, only employees are covered, but home workers are classed as employees for purposes of the Act. Special groups such as miners, seamen, railway workers and civil service employees, for whom special legislation had already provided sickness protection, were omitted from the Act.

Under the original legislation of 1930 voluntary insurance was open to small shopkeepers, artisans, self-employed non-manual workers, etc., and other persons described as those depending for a livelihood principally upon their labour, provided their annual earnings did not exceed the limits set for the compulsory insurance. This provision has, however, now been abolished and voluntary insurance is open only to the wife of the insured, with the exception of certain groups engaged in agricultural activity. The wife of an insured person receives medical benefits through her husband's insurance, but for cash, maternity, invalidity and old-age benefits she must be insured in her own right. Dependents of the insured, other than the wife, are also eligible for medical benefits.

In 1935 there were about 11,000,000 workers under the compulsory insurance scheme who, with their families, were entitled to benefits. These were distributed among about 750 health insurance funds.

Benefits

The insured's eligibility for cash benefits and benefits in kind is determined by the amount of his aggregate contributions. Exclusive of his employer's contributions, there must be credited to his account either 30 francs (\$1.98) from the previous two quarters or, failing that, 60 francs (\$3.96) in the previous four quarters, in order that he may qualify for benefits.

An insured person whose disability results from deliberate misconduct receives only medical benefits.

Cash Benefits.—Cash sickness benefits range from 3 to 18 francs a week, with a supplemental daily allowance of 1 franc for each child under 16. As stated above, the amount of cash benefit is computed according to a schedule based on the aggregate amount of contributions standing to the worker's credit in the period of reference used.

Health insurance rights are maintained during disability. The insured receives only one-quarter of the cash benefit during hospitalization when he has no dependents. If married he receives half, and if married with one child he receives two-thirds.

Pregnancy and child-birth are specially provided for by a maternity benefit. This cash benefit is granted the insured woman for a three-month period (six weeks before confinement and six weeks after) on condition that she cease remunerative work during the compensated period. The amount is the same as the regular cash sickness benefit. A woman who is insured in her own right is also entitled to a cash nursing benefit, if she nurses her infant. This amounts to at least 175 francs (\$11.55) a month for four months.

Benefits in Kind.—The French system differs from most other systems in the manner in which medical benefits are provided. The original French health insurance bill provided the conventional medical benefit guaranteeing actual medical services, but this was defeated through the efforts of the French Medical Association which introduced the substitute bill which was enacted into law.

As a result, the medical benefit does not consist of actual medical service and treatment but merely of partial reimbursement for or advance toward the insured's expenditures on medical, surgical and hospital care and drugs. It was adopted as a principle that the insured should always participate in medical benefit costs, and his compulsory share is called the "ticket modérateur". This was intended as a primary check on the abuse of medical benefits. The various insurance societies provide only 80% of the standard fee set for various types of medical treatment.

This type of medical benefit is granted in the case of illness of the dependent family as well as of the insured, for a maximum period of six months from the date of the first medical consultation in respect to the illness. Through invalidity insurance, the same medical benefit rights are granted for the first five years during which an invalidity pension is drawn.

In cases where the insured is unable to pay his share (20% or more) of the medical benefit costs, the medical assistance authorities are required to pay the "ticket modérateur" share. The medical assistance authorities pay the doctors directly at the fund's scheduled rates, after receiving from the fund its 80% share.

Pharmaceutical benefits are regulated in a similar manner to the medical benefits. The insured pays the chemist directly and is later refunded 80% of the amount that does not exceed 25 francs, and 60% of the amount in excess of 25 francs.

CHAPTER XII

Germany

Germany, the first of all countries to institute compulsory health insurance, did so when Bismarck's Sickness Insurance Bill was passed by the Reichstag on May 31, 1883, coming into operation on December 1, 1884. This primary bill applied only to industrial wage earners, but in 1885 workers in commerce and transportation were added and in the following year many groups of agricultural workers were included as well. In 1892 the scheme became a general one for all employed workers.

During the early years of Hitler's regime, the government's medical program was looked upon by many observers as one of the greatest props of the totalitarian state.

Administration

The administrative responsibility of Germany's health insurance rests primarily with the sickness insurance societies or funds (krankenkassen). There are seven types of funds, of which the Ortskrankenkassen (territorial funds) are the most important. These are organized on a regional basis and include all insured persons in a given locality who are not members of another type of fund. These other types include works funds, guild funds, mutual-aid societies, etc. The control of each fund is fixed in a body of representatives, two-thirds of whom are elected by the insured and one-third by the employers.

Thus the practical work of administering health insurance is entrusted to the funds (or societies) and the laws allow them broad powers and discretions. Yet they are public corporations, not administrative bodies, and they may sue and be sued in the courts.

The krankenkassen are supervised and regulated by the state, through a series of public offices or tribunals: the local and regional insurance offices, the superior insurance offices, and finally the Federal Insurance Office which, conjointly with the Ministry of Labor, is the highest authority.

Both cash benefits and benefits in kind are administered by the krankenkassen, of which there are about 6,000 in operation. The majority of persons (over 60%) are members of the regional (Ortskrankenkassen) rather than the occupational funds.

^{1a.} A free choice of doctor from among all who engage in insurance practice is customarily allowed. Physi-

cians are paid sometimes on a capitation basis, sometimes on a fee basis, and sometimes by a salary, although the fee basis is the most common method of remuneration.

Financing

The scheme of 1883 charged two-thirds of the cost of health insurance to the workers and one-third to the employer, with the government contributing no percentage, not even a subsidy. Since 1934, however, contributions of employers and employees have been equal.

Under the law, total contributions must not exceed 7.5% of earnings, and in most cases cannot exceed 6%. Other than this law fixing the maximum contributions, the state leaves most details concerning financing to the non-profit insurance companies (krankenkassen) themselves.

As contributions are based on a fixed percentage of earnings, this means that each insured person is contributing according to ability to pay, and that his employer is also contributing on a corresponding sliding scale.

Voluntarily insured persons pay the whole contribution themselves.

Scope

Under the legislation which culminated in 1886, workers in commerce and industry, and many groups of agricultural workers were compulsorily insured. By 1928 three classes of insured persons had been clearly established:—

- (1) Manual workers, apprentices, domestic servants, etc., *must insure* and, because their wages are highly variable, no wage limit is specified for persons in this class.
- (2) Salaried employees and officials (factory officials, foremen, shop assistants, actors, musicians, teachers, social workers, persons engaged in home industry, crews of German vessels, etc.) *must insure if they are in manual or non-manual trades and occupations and earn less than 3,600 RM. (\$858) per year.*

- (3) Persons in (1) and (2) whose earnings exceed the specified maximum and who are self-employed persons or family dependents who work without a contract of labour *may insure voluntarily.*

In 1934 there were approximately 20,000,000 insured persons and some provision for family benefits was made to about 14,300,000 dependents. It is estimated that this covered about two-thirds of the entire population.

Voluntary health insurance has also been extending rapidly of recent years among persons above the financial limits of the compulsory system.

Benefits

The state fixes the minimum or statutory benefits and specifies additional benefits which may be furnished under certain conditions, leaving further details to the krankenkassen themselves.

Cash Benefits.—Cash sickness benefits must be not less than 50% of the basic wage, payable from the fourth day of illness to the end of 26 weeks. The total may not, however, exceed 75% of the basic wage. The three-day waiting period had, by 1925, been dispensed with by over 82% of the sickness funds.

In 1941 the krankenkassen were authorized to continue the payment of cash benefits after the 26-week period was exhausted, so long as there appeared to be a reasonable prospect of the restoration of earning capacity in any occupation that the insured person concerned could take up.

Cash benefit is reduced when hospital benefit is being provided.

A cash maternity benefit is authorized by statute. Each krankenkassen must pay to an insured woman a lump sum of 10 RM. and a daily benefit equal to the cash sickness benefit (50% of wages), but not less than 0.50 RM. daily, for four weeks before and six weeks after confinement. This daily benefit must be increased to three-quarters of her wages and be furnished six weeks before confinement if she does no paid work during this period. There is also a nursing benefit, equal to half the maternity benefit, for 12 weeks after confinement.

The funds are allowed to extend these maternity benefits to uninsured wives or other dependents of

insured persons, and practically all of them do so. Approximately two-thirds of all the maternity cases in Germany are assisted by these benefits.

There is also a statutory funeral benefit of a lump sum equal to at least 20 times the basic daily wage of the deceased, which is made to his family. This lump sum can be increased to 40 times the basic daily wage.

Benefits in Kind.—As mentioned under the section on cash benefits, there are statutory benefits decreed by the state which each krankenkassen (or fund) must provide and there are optional benefits which the funds may provide if they so desire.

The statutory benefits consist of medical attendance, including specialist care; prescribed medicines, spectacles, trusses and other minor medical and surgical appliances; hospital treatment; medical attendance for insured's family; and maternity care for insured women and the wives and daughters of insured men. These statutory benefits must be provided without a waiting period for as long as cash benefits continue (26 weeks or more).

There has been a general tendency on the part of the insurance funds to extend benefits in kind to family dependents of insured persons, as allowed by the law. These additional benefits commonly include hospital and other institutional treatment for dependents, home nursing, convalescent care, special maternity care, artificial limbs, etc.

The optional health benefits furnished by the krankenkassen have taken many forms, such as supplementary maternity benefits, infant and child health care, dental service for school children, periodical health examinations of adolescents and adults, convalescent and sanatorium care, facilities and maintenance for tubercular persons, venereal disease services, popular education in sex and in general hygiene, etc.

Under the pharmaceutical benefits, the insured pays a flat fee of 0.25 RM., or the actual cost if less than this, on receipt of the medicine.

Dental benefit includes prophylactic treatments, dental surgery, and a contribution toward the cost of artificial teeth, as well as treatment for acute tooth-ache and extractions.

CHAPTER XIII

Great Britain and Northern Ireland

A compulsory system of health insurance in Great Britain and Ireland went into effect in 1912, following the passage of the National Insurance Act of 1911. The 1911 Act has been amended frequently since that time but without altering the main features of the original scheme.

One of the more important of the amendments went into effect on April 4, 1938, with the passage of the National Health Insurance (Juvenile Contributors and Young Persons) Act.

Administration

In July 1919 the administration of health insurance was made one of the duties of the newly-created Ministry of Health and the special government agency, the National Health Insurance Commissioners, set up by the original enactment was dispensed with. A medical referee advisory service was established in 1920, and it has been perfected in the interim. In Scotland, the central authority resides with the Department of Health for Scotland.

The scheme is administered indirectly by approved mutual benefit societies, the British "Approved Societies" system. The Approved Societies have the task of enrolling members and the duty of administering the statutory cash benefits and such additional benefits as the financial position of the society permits it to give. They do not, however, administer benefits in kind, which are controlled by the Insurance Committees, except in the case of Northern Ireland where the benefits are administered by the central authority.

Insurance Committees are set up for each insurance area, i.e., each county and county borough. They are specially created local committees representative of workers, doctors and public. Each Committee receives an annual allotment from the insurance funds for each insured person resident in the area, and is obligated to provide and pay for the scheme's medical benefits.

Since 1929 there also has been a governmentally organized insurance carrier for deposit contributors who have been unable, because of bad health, to secure membership in an Approved Society. This "deposit contributors' insurance section" functions like an Approved Society.

There are about 800 Approved Societies with some 6,000 branches in England and Wales. The memberships of these societies range from less than 100 to over 2,000,000.

The employer is the collecting agency for the government, paying both his own and the worker's share by purchasing insurance stamps which are placed in an insurance book for each worker. The employer holds out the worker's contribution from his pay.

Great Britain's was the first health insurance measure to throw insurance practice open to the whole medical profession and to allow a free choice of doctor. Insured are allowed a free choice of physician from any of those on the "panel" and may change their doctor at stipulated intervals.

The insurance doctors render service in accordance with a standard form of practice embodied in the T.S.P. (terms of service for practitioners) contract. The doctor is obliged to give the insured worker too ill to work a certificate of incapacity which the worker uses in making his claim for cash benefits from his Approved Society. The Approved Society has no direct relations with the doctor and no control over him. The doctor's contacts are solely with the Insurance Committee.

The conditions which a mutual benefit society must meet in order to qualify as an Approved Society stipulate that it must be non-profit, self-governing, must guarantee the standard benefits payable under the Act, and not reject applicants on account of age. If it has fewer than 5,000 members, it is required to form a "central pooling fund" with other societies for their mutual protection. Friendly societies are permitted to organize compulsory insurance sections into "approved" organizations. It is interesting to note that large commercial insurance companies organized Approved Societies which presumably met these requirements.

Financing

The scheme is financed by a joint contribution from the employer and the insured person and by a state subsidy.

The government bears all the costs of central administration and pays one-seventh for men and

one-fifth for women of the cost of the cash benefits and of local administration. The ratio of the government grant to the total annual income has been substantially reduced in recent years. Until 1925 the state paid two-ninths for males and one-quarter for females, but at present the figures are one-seventh and one-fifth, as just mentioned.

A flat per capita contribution is made by the insured person, with the employer contributing a similar amount except in the case of women. The present rate of contribution is $5\frac{1}{2}$ d. from both employer and employee for men, and $5\frac{1}{2}$ d. from employer and 5d. from employee for women.

Employers of "exempt" workers are required to contribute at the usual employer's rate in order to prevent employers from deriving an advantage from hiring exempt workers. In the case of workers who are remunerated at no more than 3s. a day, the employer is required to pay the whole of the worker's contribution in addition to his own.

The excusing of arrears resulting from bona fide unemployment has now been made a permanent part of the scheme, thus assuring the continuity of protection during all phases of future business cycles.

Voluntarily insured persons pay the contributions usually paid by the employer and employee.

Scope

Under the original Act, insurance was compulsory for all employed persons aged 16 to 65, with the exception of non-manual workers whose annual remuneration exceeded £160, casual workers employed otherwise than for the purpose of their employer's trade or business, unpaid apprentices, and unpaid children of the employer.

With the passage of the National Health Insurance (Juvenile Contributors and Young Persons) Act in 1938, the scope was considerably extended, for this Act provided medical benefit under the principal Act to cover all young persons over the school-leaving age who became insurably employed. This closed the gap which had existed between medical supervision under the school medical service and under the insurance medical service.

The salary limit for non-manual workers was also raised from £160 to £250 in 1919, and to £420 in 1941. When the £160 limit was set British wage levels were such that this figure covered most of the white-collar workers.

Self-employed workers were excluded from the compulsory conditions of the Act, but were permitted to insure through voluntary insurance. Since 1918, however, the right to participate voluntarily in the insurance scheme has been restricted generally to persons who were formerly compulsorily insured and who, through change of employment or for other reasons, have moved out of this insured group.

At the present time insured persons are covered for cash benefits from school-leaving age to age 65, when they become eligible for old-age pension. Medical benefits continue until death. The British system covers only the insured person, not dependents, and extension of benefits in kind to the family of the insured is not permitted by the regulations.

In 1929 compulsory insurance was extended to several groups of self-employed manual workers who were technically "independent contractors" rather than employees. The general scheme covers agricultural workers and two years' free insurance is granted to unemployed workers.

Insured persons constitute about 40% of the entire British population and about 80% of the gainfully occupied persons. In 1938 there were over 19,000,000 persons insured in England, Scotland and Wales, with about 16,800 doctors operating under the scheme.

Benefits

Cash Benefits.—Cash benefits include, first, sickness benefits, granted after a three-day waiting period up to 26 weeks of continuous incapacity; secondly, a disablement benefit, amounting to one-half the sickness benefit, which is really an invalidity pension payable without time limit for incapacity continued beyond the sickness-benefit time limit; and thirdly, a maternity benefit, which consists of a lump sum payable on confinement of the insured woman or wife of an insured man, with a qualifying period of 42 weeks.

All cash benefits are set at flat figures that do not vary with the wages earned by the worker.

The standard rates for cash sickness benefit are 15s. weekly, with no payments for dependents. This is in rather sad contrast to the benefits payable under the unemployment scheme which amount to 17s. weekly for the insured, with a statutory additional benefit of 10s. for the wife, and 3s. for each child. Approved Societies with a surplus are allowed to grant additional cash sickness benefit to take care of the dependents, and more than 70% of insured

workers now belong to Approved Societies which do so.

The 26-weeks qualifying period for cash sickness benefit makes the insured eligible only for a reduced benefit and 104 weeks' contributions are required for the full 15s. benefit. There is a waiting period of three days.

The maternity benefit amounts to 80s. (\$19.47) if the wife is insured and 40s. if only the husband is insured.

Great Britain is the only country with a compulsory health insurance scheme that does not grant a funeral benefit.

Benefits in Kind.—Benefits in kind are available only to the insured man or woman, not to the dependent family. These benefits are available immediately on insurance, there being no waiting period and no time limit for medical benefit. Great Britain is the only country in which medical care is continued without any limit of time, for the chronically invalid as for those still acutely ill.

No hospital benefits are provided by the British scheme, principally because of the "voluntary hospital" tradition. In 1936 Britain was the only one of 22 countries having compulsory insurance that did not provide hospital care.

Sanatorium benefit, a special service for the tubercular, which was originally part of the regular medical benefit, has not been administered as a medical benefit since 1920, having been assimilated in another programme.

The services of specialists are not provided as a statutory benefit.

The pharmaceutical benefit provides medicine at no cost to the insured. An annual sum equal to 2s. 11d. per capita of insured persons is set aside as a maximum for chemists' accounts. If the sum is insufficient to pay the chemists' accounts in full, a pro rata distribution is made, this system being agreed to by the National Pharmaceutical Union.

VOLUNTARY INSURANCE

Voluntary health insurance also plays an important role in Great Britain and for that reason a few details regarding it are inserted here. The encouragement of voluntary insurance by the state was initiated by the Friendly Societies Act of 1793, whose provisions have been extended and modified in many subsequent enactments.

Administration

The administration of these schemes is usually conducted by friendly societies, trade unions and shop clubs.

The friendly societies, by voluntary subscriptions of their members, provide for a wide range of benefits. Registration is not compulsory and there are many unregistered friendly societies and kindred associations whose operations are not covered by any statistics. Registered friendly societies, for the most part, conduct their insurance on an accumulating system and are periodically valued on an actuarial basis. They can, however, adopt other methods and there is a very wide variety of practice among societies as a whole.

Financing

Voluntary insurance is financed by the subscriptions of the members, supplemented in some instances by contributions from employers or donations or bequests by persons interested in the welfare of the institutions. In the case of trade unions, friendly societies granting unemployment benefit, and medical aid societies, subsidies are received from the state.

It is impossible to give rates of contributions for voluntary insurance owing to the varying methods of insurance adopted in different institutions and the wide variety in the amount and scope of the benefits insured.

Scope

Practically all of these voluntary institutions serve the needs of the wage-earning classes. Some institutions draw their membership from a wider field, and some are conducted solely for the benefit of persons outside the wage-earning classes, e.g., members of a profession.

Benefits

The benefits which may be insured by the friendly societies, as enumerated in the Friendly Societies Act, include the relief or maintenance of the members and their dependents during sickness or other infirmity, whether bodily or mental.

The benefits most commonly insured by benefit societies are sickness and death benefits.

The number of insurances in voluntary social insurance institutions in 1933 was 11,300,000. This number represents insurances and not persons as a result of multiple insurances in respect of a single individual in one or more institutions.

CHAPTER XIV

Greece

Compulsory health insurance was instituted in Greece by an Act of 1922.

Financing

The only government grant to aid the Greek scheme was an initial subsidy when it was first instituted.

The insured pays 1.6% of the mid-point of his wage class. The employer pays a slightly higher contribution than the insured.

Scope

The 1922 Act covered workers in industry and this was extended to those employed in commerce in the

following year. At the present time the law covers wage earners in general. Wage-earning and salaried employees and servants of both sexes employed for remuneration are included irrespective of the way in which such remuneration is calculated.

Homeworkers are not liable to compulsory insurance but may insure voluntarily. Temporary and casual workers are not liable.

Benefits

The Greek Act does not specify the amount of cash benefit nor the conditions on which it is payable. As a rule, the insured receives medical treatment and a cash sickness benefit equal to 40% of his wage.

CHAPTER XV

Hungary

Compulsory health insurance was first adopted in Hungary in 1891, but the present system was put in force in 1907, the law being amended and consolidated in 1927.

Administration

The entire medical arrangements for the country are organized from the National Social Insurance Institution. The National Institution is managed by bodies on which employers and insured are represented in equal numbers. There are branches, district funds and works funds throughout the country at which specialist and general treatment is given to the insured.

The insured person is medically attended to by the doctor allotted to his district.

Financing

The government pays a grant only toward administrative expenditure.

Contributions to the scheme are shared equally between the insured and the employer. The amount of the contribution varies with the wage class and is fixed once a year by the National Institution.

The total contribution may not exceed 6% of wages, if the wage class system is used, nor 7% if the basic system is employed. The contribution for domestic servants is fixed at a uniform rate of 3 pengo a month.

Scope

Insurance is compulsory for all persons, without regard to sex, age or nationality, who are employed, whether permanently, provisionally, temporarily or as supernumeraries, within Hungarian territory in certain enumerated industries and occupations. This enumerated list contains practically every class of undertaking, including railways, post, telegraph and telephone undertakings, industries allied to agriculture, undertakings and offices conducted by the state or public authorities, and home workers and domestic servants, as well as workers in industry and commerce. Members of the civil service are exempt only in cases where their salary is payable for six months in case of illness.

Non-manual workers whose income exceeds 3,600 pengo (\$630) a year are exempt. Agricultural workers are also excluded.

Voluntary insurance is provided for persons formerly insured compulsorily, and also for certain classes of persons outside the general scheme.

Benefits

Cash Benefits.—For cash benefits there is a three-day waiting period following which a benefit equivalent to 50% of the basic wage is paid for a maximum period of 52 weeks. If the fund is unable to afford medical attendance or drugs, the rate of cash benefit is doubled. Apart from such cases benefit may never exceed actual earnings.

Provision is made for a cash maternity benefit for insured women, equal to one-half of the average daily wage, for six weeks before and six weeks after confinement. There is also a nursing benefit of 0.60 pengo a day for the 12 weeks after the cessation of the maternity benefit provided she nurses the child herself. The wife of an insured man is also granted maternity and nursing benefits on a lower scale.

Funeral benefit, on the death of the insured, is also paid.

Benefits in Kind.—Hungary gives a medical service materially more extensive than that provided in Great Britain. Medical treatment, medicine, baths, mineral water and certain surgical appliances are provided as well as treatment in hospital with full maintenance, subject to certain conditions. A vast amount of treatment is carried on at polyclinics. There is a time limit of 52 weeks.

Members of the insured's family are also entitled to medical assistance and drugs.

Insured women may claim the attendance of a doctor or midwife before, during and after confinement.

No qualifying period for benefits is required. Persons insured for at least six consecutive months are protected in case of unemployment for a length of time which varies with the terms of their insurance.

CHAPTER XVI

Italy

Health insurance schemes in Italy are divided into eight distinct groups, each group being administered as a rule by a central fund. Four of these groups, namely, health insurance in the New Provinces (formerly Austro-Hungarian territory), insurance for seamen and airmen, maternity insurance, and tuberculosis insurance are definitely compulsory, while the remaining groups, namely, those for industrial workers, commercial employees, land and river transport workers, and agricultural workers are theoretically voluntary but, in practice, compulsory.

These latter schemes are, in effect, compulsory because the legislative decree of May 6, 1922, concerning collective agreements, stipulates that such agreements may not be approved or published unless they contain definite provision for protection of the workers in case of sickness. As a result, health insurance funds have been set up under the relevant provisions of the Labour Charter, through the medium of agreements concluded between the central employers' and workers' organizations, under the auspices of the Ministry of Corporations.

Because of these legislative laws we may say that health insurance in Italy is really compulsory for industrial workers, commercial employees, land and river transport workers and agricultural workers, as well as for seamen and airmen and persons in the New Provinces.

Workers' voluntary mutual aid societies were regulated in Italy by the Act of 1886, but any mutual aid funds may obtain legal personality by royal decree.

Compulsory maternity insurance is provided for by a decree of September, 1923.

It was in November, 1925, that a legislative decree confirmed the existing compulsory system in the New Provinces, with certain modifications.

A decree of October, 1927, provided for compulsory tuberculosis insurance.

The laws regulating insurance for industrial workers, commercial employees, land and river transport workers, agricultural workers and seamen and airmen are all separate enactments and all of them came into effect around 1930.

Administration

The extension of compulsory health insurance in Italy has been held up somewhat by the traditional institution of the "condotta" doctor who must attend any person in need of treatment or advice and is paid by the local authorities.

At the present time general insurance against all forms of sickness among the various occupations is operated through the mutual sickness funds and other bodies giving sickness assistance, which are constituted and are under the direction of the Syndical Associations.

In 1939 the Central Corporative Committee recommended that "a sole control of sickness assistance be set up through the creation of an apposite organ which shall coordinate all the existing activities, maintaining the actual professional distinctions so as to insure the fulfilment of the real and particular needs of each category of workers."

The contributions to all compulsory schemes are handed over to the National Fascist Institute of Social Insurance.

The sickness funds for industrial workers are managed by a governing body consisting of an equal number of representatives of the employers and the workers, elected for a term of two years. In 1934 a Fascist National Federation of Mutual Benefit Insurance Funds for Industrial Workers was set up to act as a central coordinating body for the work of the sickness funds for industrial workers.

Insurance for commercial employees is administered by the National Sickness Insurance Fund for Commercial Employees under the management of a governing body, a managing committee and a board of auditors.

Funds for land and river transport workers are organized by the National Welfare Institute for Land and River Transport Workers, and this Institute supervises and coordinates the activities and management of the funds.

The insurance scheme for agricultural workers is managed by provincial funds administered by a governing body consisting of delegates of the agricultural employers and workers of the province con-

cerned. The provincial funds are affiliated to the National Federation of Mutual Benefit Sickness Funds for Agricultural Workers.

The administration of seamen and airmen's health insurance is in the hands of sickness insurance branches, set up in the compulsory mutual accident insurance associations for seamen.

In the New Provinces the scheme is administered by district insurance funds which, in turn, are administered by a governing body appointed by the Minister of Corporations.

Compulsory tuberculosis insurance is handled by a special branch set up in the Fascist National Social Welfare Institute.

The compulsory maternity insurance scheme is entrusted to the National Maternity Fund, an autonomous branch of the Fascist National Social Welfare Institute.

Financing

The financing of the schemes for industrial workers, land and river transport workers and agricultural workers is borne by equal contributions from employers and employees. In the case of land and river transport workers the payments are at a rate of 3% of the daily wage. In the case of industrial workers they are 1% of the monthly wage.

The scheme for commercial employees is financed by employers' contributions to cover the cost of compensation to the insured persons for loss of salary, and employers' and insured persons' contributions to cover the cost of medical and pharmaceutical benefit. The governing body of the fund fixes the rates of both classes of contribution with due regard to the benefit period as laid down in the collective agreements, and to the salary of the insured person.

The financial resources of the seamen and airmen's scheme are derived from contributions borne entirely by shipowners and contributions borne equally by the employer and the insured person. The rate of contribution is fixed year by year by the management of the funds and may not exceed 4% of the insured person's daily remuneration.

Under the compulsory scheme in the New Provinces, the contribution is borne equally by the insured persons and their employers. The contribution may not exceed 4% of the daily wage.

The financial resources of the maternity insurance scheme are derived from annual contributions by the

employer and by the insured woman, by state subsidies, and by fines inflicted for breach of the law or non-payment of contributions.

Insured persons and employers contribute in equal amounts to the compulsory tuberculosis insurance plan.

Scope

As the above remarks have indicated, all industrial workers, commercial employees, land and river transport workers, agricultural workers and seamen and airmen are insured against sickness.

In the New Provinces insurance is compulsory for all workers and employees of both sexes.

Maternity insurance is compulsory for all women workers in industrial undertakings, workshops and commerce, women employees in commerce and industry between the ages of 15 and 50, women employees in the telephone services of private undertakings, and women homeworkers. The scheme does not apply to women public servants, to other women who are already protected by special legislation or regulations, or to women employees earning more than 800 lire a month.

Tuberculosis insurance is compulsory for employed persons of both sexes between the ages of 15 and 65.

These schemes embraced nearly 9,000,000 persons in industry, commerce and agriculture alone in 1939.

Benefits

Because of the large number of schemes operating in Italy we will depart from our usual procedure when discussing benefits and study the subject under the headings of the various schemes.

Insurance for Industrial Workers.—The cash benefit may be as high as 50% of wages, with a qualifying period of 18 weeks and a one, two or three-day waiting period. The time limit varies between 90 and 180 days. There is also a funeral benefit.

There is no qualifying period for benefits in kind which include free medical, surgical and pharmaceutical treatment and maternity assistance. Some funds also provide for the admission of insured persons to curative establishments.

Insurance for Commercial Employees.—The cash sickness benefit amounts to 100% of wages, although it cannot exceed 60 lire a day. There is no waiting period and the benefit is payable for a maximum

period of 180 days a year. A maternity benefit of equal amount is granted to women for a month before and a month after childbirth.

The benefits in kind consist of repayment to the insured of medical and pharmaceutical expenses for the whole period of recognized sickness, provided that they do not exceed 25% of the cash benefits. Similar treatment is granted to women during the childbirth period.

Other welfare and assistance benefits may be granted if they are sanctioned by the governing body and approved by the Ministry of Corporations.

Insurance for Land and River Transport Workers.—A cash benefit equal to 50% of the daily wage is payable for a maximum period of 90 days, with a qualifying period of 12 weeks. There is a two-day waiting period unless the illness lasts more than five days, in which case the benefit is payable from the first day. There is also a funeral benefit.

The benefits in kind consist of repayment of part of the medical and pharmaceutical expenses, with a qualifying period and a waiting period similar to those required for the cash benefits.

Insurance for Agricultural Workers.—The daily cash benefit amounted to 4 lire in 1936, but this may have been increased slightly by now. A funeral benefit of not more than 300 lire is also payable.

Benefits in kind include medical and pharmaceutical assistance, admission to curative establishments, clinics, sanatoria, etc., and medical attendance for women on confinement. These benefits in kind are also granted to dependent members of the insured's family.

Insurance for Seamen and Airmen.—The daily cash benefit, at the rate of 60% of wages, is payable from the third day for four months. A cash benefit at a lower rate is payable at the end of the four-month period for as long as a year. The maternity benefit for insured women is at the same rate as the cash sickness benefit and is payable for six weeks pre-

ceding and six weeks following confinement. The funeral benefit is equal to a month's wages.

Free medical, surgical and pharmaceutical assistance is provided from the first day of illness for a maximum period of six months. Maternity assistance is also provided. These benefits in kind are extended to the dependent members of the insured's family as well as being given to the insured person himself.

Insurance in the New Provinces.—The cash benefit equals 50% of wages, with a four-day waiting period and a time limit of 26 weeks. If the insured person is admitted to a hospital, his dependents are entitled to one-half of this benefit. Insured women get a maternity benefit at the same rate as the cash sickness benefit for not more than four weeks from the date of their confinement. The funeral benefit equals twenty times the daily wage.

Insured persons are entitled to free medical and pharmaceutical assistance for the duration of their sickness, including medical attendance and drugs required by women during pregnancy and confinement.

Maternity Insurance.—The benefit under maternity insurance, amounting to 300 lire, is payable to every insured woman in the event of confinement or miscarriage. In the event of abortion, the benefit is 200 lire. The insured woman is entitled to this benefit even if part or all of her contribution has not been paid.

Tuberculosis Insurance.—The dependents of an insured person who is granted institutional or home treatment are entitled, if the total fortnightly contribution paid on his behalf for the last six months was at the rate of 1 lire, to a daily cash benefit at the rate of 4 lire, or of 6 lire if the contribution was 2 lire.

The tuberculosis insurance scheme provides for the admittance of insured persons and their dependents to homes and institutions for treatment or to special wards of approved hospitals.

CHAPTER XVII

Japan

Compulsory health insurance was introduced in Japan by an Act of April 22, 1922. This Act came into force on July 1, 1926. The scope of the scheme was extended by an amendment in March 1934.

Administration

Health insurance is administered by autonomous funds or by government insurance offices.

Industrial undertakings employing 500 workers or more are under obligation to set up autonomous health insurance funds if the competent Minister so orders. Undertakings employing from 300 to 500 workers may do so, and smaller enterprises may combine to form funds with at least 300 members.

Workers not belonging to such autonomous funds are insured with one of the fifty prefectural health insurance offices.

The central administration is carried out by the Bureau of Social Affairs under the Ministry of the Interior.

Financing

The cost of the insurance scheme is covered by contributions from the insured persons and their employers, and a state subsidy.

The insured person and the employer pay equal shares of the total contribution, the employer being responsible for the payment of the joint contribution. The employer's share may be increased to two-thirds of the whole in dangerous occupations or when the insured person's wage is very low.

The insured person's contribution may not exceed 3% of his wage.

The state contributes one-tenth of the cost of the insurance (but not beyond 2 yen per annum for each insured person) and the expenses of the central administration.

Scope

Health insurance is compulsory for all wage earners in factories and mines to which the Factory and Mining Acts apply. Workers in agriculture, commerce, transport and administration do not come under the law. An employer in an undertaking not subject to the law may have his staff insured if the majority of them are in favour of it.

All government employees are covered by a special scheme.

Persons formerly compulsorily insured may continue their insurance if they apply to be allowed to do so within ten days after ceasing to be insurable.

In 1932 only 3% of the population were covered by health insurance.

Benefits

Cash Benefits.—The cash benefits consist of a daily allowance equal to 60% of the daily wage. For industrial accident or occupational disease, no waiting period is required, but when the incapacity is not of occupational origin there is a three-day waiting period. When the insured person is treated in hospital, the daily benefit is reduced, but account is taken of family responsibilities.

In the event of childbirth an insured woman is entitled to a lump sum of 20 yen, which is reduced to 10 yen if the woman is placed in a maternity home or is provided with midwife attendance. She also receives a cash maternity benefit equal to 60% of the daily wage, which is paid only during the period of the woman's absence from work, and in any case for not more than four weeks before and six weeks after confinement. If the insured woman is placed in a maternity home, the benefit is reduced, account being taken of her family responsibilities.

Maternity benefit is not payable in respect of a confinement if the woman has been insured for less than 180 days during the year immediately preceding her confinement or if 180 days have elapsed since she ceased to be insured.

All benefits are limited to six months in each individual case.

A funeral benefit is provided, equal to 30 times the daily wage, but in no case less than 30 yen.

Benefits in Kind.—The benefits in kind include free medical attendance, hospital treatment, medicine, medical appliances and dental care. With the approval of the office or fund concerned, free nursing, ambulance services or transport may be provided. As stated above, benefits are limited to six months.

Under the Japanese scheme only the insured person is covered, benefits not being extended to his family.

CHAPTER XVIII

Latvia

The Latvian Insurance Code of 1922 provided for compulsory health insurance. It was an outgrowth of the system inherited from prewar days. In 1938 the scheme was extended to cover agricultural workers by the Agricultural Workers' Sickness Fund.

Administration

Insurance is administered by funds managed with the participation of representatives of the insured persons and employers. These funds may be works funds for single undertakings, joint funds for several undertakings, or trade funds for workers engaged in particular trades.

The jurisdiction of the joint funds is defined by the Minister of Social Welfare, who is responsible for supervising the activity of sickness and maternity insurance funds.

Financing

The total contribution was divided equally among the employer, the insured, and the state until 1933 when the state's contribution was reduced by 25%. The rate for insured persons may not be more than 2% nor less than 1% of wages. Smaller funds may impose a rate of 3%.

The employer is liable for the cost of medical aid, and where this is supplied by the fund, the employer must reimburse it by a contribution of from 1% to 2% of wages.

Under the more recent Agricultural Workers' Sickness Fund, the insured pays a fixed fee of 0.25 lat for each consultation or visit, and 15% of the expenditure on drugs. Under this scheme the deficit is met by the state.

Scope

The code applies to all private, commercial and state undertakings, institutions and other work places, and also to private individuals employing labour for remuneration. Agricultural workers are now included, but persons employed on board vessels

making long voyages and those on active marine service are expressly excluded.

Benefits

Cash Benefits.—Cash sickness benefits vary between 60% and 90% of wages. There is a waiting period of three days and a time limit of 26 weeks.

In case of childbirth, women members of the fund are entitled to a maternity benefit equal to their full wages for four weeks before and eight weeks after confinement, provided that they actually abstain from all paid work and that they were insured for at least three months before confinement. Nursing benefit is optional.

A funeral benefit is provided amounting to between 30 to 50 times the daily wage of the deceased.

The fund may defray the cost of cash sickness benefit, maternity benefit and funeral benefit for members of the insured person's family who are dependent upon him.

Benefits in Kind.—Medical attendance is granted where the illness does not involve incapacity for work for as long as the patient is a member of the fund. In other cases such attendance is allowed up to a maximum of 26 weeks, but in no case for more than 50 weeks in a year. Medical attendance is granted at the expense of the employer but funds may themselves organize benefits in kind, the employer paying contributions thereto.

First aid in cases of sudden illness, dispensary and hospital treatment, and attendance during confinement are also provided.

The insured persons are required to pay 15% of the cost of medicaments, except in cases of confinement, danger to life, and haemorrhage.

The funds may also bear the cost of medical attendance to dependent members of the insured's family, but the total amount of benefits, including the cost of cash benefits, may not exceed one-quarter of the total amount of the contributions to the fund.

CHAPTER XIX

Lithuania

Lithuania established its own compulsory health insurance scheme in 1925, developing in this way the system it had inherited from its former masters before the First World War.

Administration

Under the Lithuanian plan each rural health center has at his disposal the services of a doctor and mid-wife. The doctor must be at the disposal of persons benefiting for not less than four hours a day for purposes of consultation. Such doctors are guaranteed a minimum salary by the state.

Financing

Expenses are shared equally by the worker, the employer and the state. On top of its one-third contribution, the government pays a maternity benefit.

The insured's rate must not exceed 3% of the midpoint wage of whichever of the six wage classes he is in.

Deficits for the rural health services are made up by a supplement to the land tax.

Scope

The scheme covers all persons, irrespective of age or sex, who are employed by the state, the municipality or private persons. Unpaid apprentices are assimilated to wage earners in the lowest wage class.

Agricultural workers, pensionable civil servants, casual workers, persons whose remuneration exceeds 400 litas a month, and independent workers are excluded.

Agricultural workers are, however, allowed to insure voluntarily and are served by the system of rural health centers. Persons under 50 years of age not predisposed to disease may also insure voluntarily, but not in respect of an income exceeding 6,000 litas, plus 1,000 litas for each dependent child.

Benefits

Cash Benefits.—A sick person who is unable to work is entitled to a cash benefit equal to one-half or to all his wages, according to his family responsibilities. The rate of benefit is fixed once a year by the general meeting of the fund. If the fund grants free hospital treatment it need not pay cash sickness benefit.

Benefits are granted from the fourth day of sickness for not more than 26 weeks. The law contains no provision for a qualifying period, but any fund may make such provision in its rules.

A funeral benefit is also paid.

Benefits in Kind.—Medical first aid in case of sudden illness, treatment in dispensaries, at home or in hospital, and drugs are provided.

Medical assistance to the family of the insured is also given for a maximum period of 13 weeks.

CHAPTER XX

Luxemburg

Compulsory health insurance was established in Luxemburg in 1901. The present system is based on an Act of 1925.

Administration

The activity of the funds is supervised by the Central Committee for Sickness Insurance Funds. This committee consists of a chairman appointed and paid by the government and of representatives of the employers and insured persons.

Each fund is administered by a governing body and a general meeting. The employer or employers control one-third of the voting and the insured persons two-thirds.

District funds may be set up by governmental decision for certain areas, the limits of which usually coincide with that of the administrative districts. Such funds cover all insured persons employed in their district who are not members of an establishment fund.

An establishment fund may be set up when the head of an undertaking regularly employs at least 500 persons in one or more establishments. Authority to set up the fund is only granted when the benefits payable under the rules are equivalent to those of the district fund and provided the operation of the latter is not prejudiced thereby.

Financing

The total contribution is proportionate to the insured person's wage. The wage taken into account is either his actual wage or his so-called normal wage. The latter is defined as the average daily wage fixed by the rules on the basis of the various wage rates of the members of the fund. The law establishes a maximum normal wage, which has been fixed by a decree at 26 francs a day.

The rate of the total contribution is fixed by the rules of each fund, but must not exceed 4.5% of the normal wage in the case of a new fund. Subsequently an increase in the rate is allowed if approved by the employers and insured or if necessary to cover the normal benefits of the fund. In the latter case, the increased rate may not exceed 6.75% of the normal wage.

The employer pays one-third and the insured two-thirds of the total contribution. The state bears half the administrative expenses of the district funds and half those of the Central Committee.

Scope

Insurance is compulsory for all employed workers, labourers, agricultural workers, works officials, foremen, etc. Works officials, foremen and persons in similar callings, and private salaried employees are exempt if their annual income exceeds 10,000 francs. Professional people and domestic servants are also excluded.

Voluntary insurance is open to most persons in the exempt classes providing their annual income is less than 12,500 francs.

Benefits

Cash Benefits.—Statutory cash benefits are equal to one-half of the ordinary wage with a maximum of 12 francs per working day. They are payable for 26 weeks and may be extended by the rules to one year. There is a three-day waiting period and a qualifying period of eight days. Protection during unemployment is provided.

A cash maternity benefit equal to 50% of earnings is payable for six weeks before and six weeks after confinement to women who were insured for six months during the year preceding such confinement. When treatment and maintenance in maternity clinics is substituted for maternity benefit, an allowance amounting to 50% of the maternity benefit is payable to members of the insured woman's family dependent on her.

A nursing benefit equal to 25% of the maternity benefit is payable for 12 weeks.

Funeral benefit, amounting to one-fifteenth of annual earnings with a minimum of 600 francs and a maximum of 800 francs, is also payable.

Benefits in Kind.—Benefits in kind are payable in the event of sickness and are granted even if the illness does not involve incapacity for work.

The insured person is, from the date of his joining the fund, entitled to medical aid which includes

medical and dental treatment and the supplies of medicines and other curative appliances. Such benefit is payable from the beginning of the illness and for 26 weeks. Hospital treatment may be substituted for treatment at home. The attendance of a nurse of either sex may be provided in cases where hospital treatment is impractical.

The rules of the fund may also provide for the organization of a prophylactic medical service.

In the event of an insured woman's confinement, the attendance of a midwife or, if necessary, of a medical practitioner, is provided. Such attendance is also provided as additional benefit for the wives of the insured persons. Maternal medical care is provided to women who have been insured at least six months during the year preceding confinement.

All the above benefits are statutory, and the provision of additional benefits by the various funds is permitted by the Act.

CHAPTER XXI

Mexico

On December 29, 1942, the Mexican National Congress unanimously approved a Social Insurance Bill in the form in which it was submitted by the Secretariat of Labour, and a tripartite committee was set up as the nucleus of the National Social Insurance Institution.

This Bill was the result of the work of a technical committee appointed in June 1941. The Bill was prepared with the advice of two experts of the International Labour Office, and in December 1941 was transmitted to the government. While taking full account of the experience gained in other Latin American countries, it is adapted to the social and economic characteristics of Mexico and is based on a full set of actuarial estimates.

The Bill provides for insurance against sickness, invalidity, old age and premature death.

Administration

The scheme is to be administered by a National Social Insurance Institution in which provision is made for tripartite representation. The Bill contemplates that the scheme will be applied by stages, having regard to the degree of industrial development, geographical situation, the proportion of the population liable to insurance, and the feasibility of establishing social insurance services.

Financing

The cost of insurance is divided among employer, insured person and the state. The employers are responsible for one-half the cost, while insured persons and the state contribute one-quarter of the cost each. The employer's contribution is fixed at 6% of wages and that of the worker at 3%, while the federal government subsidy is equal to half the total amount of the contributions paid by employers.

Scope

The social insurance scheme applies to all employed persons, whether the employer is a private, public or mixed undertaking, or an undertaking managed by the workers themselves.

Benefits

Health insurance provides the insured person, his wife, and children under 16, with medical, surgical and pharmaceutical treatment, and the insured person with a cash benefit. Insured women are entitled to obstetrical care and to a cash benefit, while the wife of an insured man is provided with obstetrical care only.

CHAPTER XXII

Netherlands

Compulsory health insurance in The Netherlands is based on the Act of June 5, 1913, as amended by the Acts of June 1929, December 1930 and December 1934. Actually, compulsory health insurance did not come into effect until 1929, as the Act of 1913, which was to apply to all wage earners except domestic servants, was adopted just before a change in government and, as a result, the plan was not put into effect.

Voluntary health insurance is also extensive in The Netherlands. Mutual aid societies are governed by the Civil Code and by an Act of 1855 concerning the right of association and assembly. Insurance with the voluntary funds is not subject to legislation.

Administration

Two classes of institutions are established under The Netherlands' scheme. These are occupational funds, called trade associations, and funds, established by each labour council, which provide insurance for all persons not belonging to a trade association.

Trade associations, to be recognized by the Minister of Labour, Commerce and Industry, must grant benefits at least equal to those required by the Act, must insure against sickness all the workers engaged by the affiliated employers, the aggregate wages of the persons insured by it must amount to at least $2\frac{1}{2}$ million florins, and it must not be conducted with a view to profit.

Voluntary health insurance is administered by the funds affiliated to The Netherlands Medical Association and by mutual benefit and other societies.

Financing

The resources of the insurance scheme are obtained by equal contributions from employers and insured persons. No government subsidy is paid.

The employer is responsible for paying the whole contribution and is entitled to deduct the insured person's share from his wages. The rate of contribution is fixed as a percentage of the wage, the part of the wage exceeding 8 florins a day not being taken into account.

The Act also provides for a separate preventive fund for the whole country, divided into two distinct sections, one being called the prophylactic fund and the other the medical benefit fund.

The financial resources of the voluntary funds are derived entirely from members' contributions.

Scope

Compulsory health insurance applies to all wage earners on condition that their fixed annual wage does not exceed 3,000 florins. Exemption may be granted to workers whose daily wage is under 40 cents.

Voluntary insurance under the provisions of the Act is open to workers who have ceased to be compulsorily insured, and to persons who have been insured, whether compulsorily or voluntarily, against sickness in foreign countries and who have adopted The Netherlands as their domicile.

Voluntary insurance with the various sickness funds is usually open to any person of small means whose income does not exceed a maximum fixed by the rules of the fund.

Benefits

Cash Benefits.—Cash benefits, with a two-day waiting period and a time limit of six months, amount to 80% of the daily wage, subject to a maximum basic wage of 8 florins. There is no qualifying period for cash sickness benefit.

There is also a cash maternity benefit for insured women, which takes the form of a daily allowance equal to the full wage, from the day following that on which a written statement by a doctor or midwife is produced, certifying that childbirth will probably take place within six weeks. This benefit is payable for at least six weeks from the day of confinement, with a maximum period of six months.

Benefits in Kind.—Under The Netherlands' scheme provision is made only for cash benefits. Nevertheless, in order to encourage insured persons to obtain treatment through a voluntary sickness fund granting benefits in kind, the Act provides that the insured person may not receive cash benefits unless he proves that he is a member of a recognized fund granting benefits in kind or that he is able to obtain medical assistance elsewhere.

In case of confinement, however, the insurance institution must provide the services of a doctor or midwife if the insured person cannot obtain them otherwise.

Benefits extended by the voluntary funds usually include medical treatment, medicines and other medical attendance, and in some cases hospital treatment.

CHAPTER XXIII

New Zealand

The New Zealand social security system was created by bringing together a series of existing social assistance schemes and adding certain additional features. The system was inaugurated by the Social Security Act which was passed on September 1, 1938, and went into effect on April 1, 1939.

Of the benefits which came into operation in 1939 the old age, invalids', widows', family, miners', Maori War, and unemployment benefits were in existence prior to that date. The social security legislation, however, made these benefits more generous in their scope. In addition, four new classes of benefits, namely, the orphans' benefit, the sickness benefit, emergency benefits (for cases of hardship), and the universal superannuation benefit were established.

The violent opposition of the medical profession and the outbreak of war served to hinder the efforts of the government in putting the new benefits into effect, but in most respects it is now functioning successfully with more doctors willing to cooperate. The medical profession charged that the scheme would have the result of depressing medical practice to one common unenterprising level. The government, however, refused to back down on its plan of universal coverage, although it did make certain concessions as regards payments, etc., to make the lot of the doctor a more favourable one.

From the beginning contributions to the scheme were made by the population, and the various pensions and free maternity treatment were provided. It was some time before the general health benefits began to be made available. These benefits are being added as circumstances permit.

The medical-benefits scheme was inaugurated in 1940, setting up the panel system of treatment, as in Britain. In 1941 pharmaceutical benefits, X-ray benefits, and a scheme of free general medical services were inaugurated. Hospital benefits for out-patients were introduced in the same year.

Voluntary health insurance schemes in New Zealand are governed by an Act of 1909 but the registration of friendly societies is optional and their income is wholly derived from the contributions of members.

Administration

Following the passage of the Social Security Act, the Social Security Department came into being on April 1, 1939. The provisions of the Act relating to the payment of benefits are administered by a permanent Commission of not more than three members, who are the principal officers of the Social Security Department. One member of the Commission is appointed to act as chairman and as such is the administrative head.

The Department itself is divided into two separate divisions, each under the immediate control of a director attached to the head office. The Department is represented throughout the Dominion by 19 registrars who have under their control 29 district agencies located in the smaller towns. In this way, beneficiaries and intending applicants are enabled in a large majority of instances to personally represent their cases to officers of the Department. It is the duty of all registrars to investigate all applications for cash benefits under the Act and submit same to the Commission for decision.

Medical care is furnished by individual practitioners who are refunded by the state a fixed fee per visit or consultation and are not legally entitled to additional remuneration from the patient. Previous to the adoption of the fixed-fee-per-visit system, the government had attempted to introduce an annual capitation fee system of 15s. a year for every patient on the doctor's panel. This proposal met with such strong opposition from the medical profession, however, that the government switched to the consultation-fee method.

At the present time any medical practitioner who provides any general medical service is entitled to receive from the Social Security Fund the amount of 7s. 6d. for each consultation at his surgery or visit to the patient's residence during any week-day. For any such service urgently requested and duly afforded at any time on a Sunday, or between the hours of 9 p.m. and 7 a.m. on any other day a fee of 12s. 6d. is payable from the Fund. The medical officer of health may approve a claim for a higher fee if the relative medical service necessarily involved more than thirty minutes of the practitioner's time. The fee may be claimed from the Fund either by the

practitioner directly or by the patient by way of refund, in which latter case the claim must be supported by the doctor's receipted account. The doctor is also entitled to a mileage fee of 1s. 3d. a mile.

Financing

The social security system is financed by contributions from every citizen together with contributions from the state, derived from general taxation.

Every person of the age of 16 years and over is required to register under the Act and, unless exempt, to pay a registration fee of 5s. a year in the case of females and a like fee in the case of males 16 to 20 years of age. Males over the age of 20 are required to contribute £1 a year. In addition to the registration fee there is payable also to the Fund a Social Security Contribution of 1s. in the pound (5%) on all salaries, wages and other income.

In the case of companies there is a similar rate on their "chargeable income" which, with minor modifications, is the income assessable for income tax. Non-taxable companies are specially taxed on profits for distribution to shareholders.

The actual collection of the Social Security Contribution and Registration Fee is a duty imposed by the Act upon the Commissioner of Taxes.

Unlike Great Britain, a large proportion of the money required for the security scheme in New Zealand is raised by this Social Security Contribution, a type of income tax, adjusted to capacity to pay. In Great Britain the funds are raised partly by flat contributions in respect to earnings and partly by taxation in respect to capacity to pay. In New Zealand contributions are proportional to income.

Scope

The scope of the New Zealand scheme is not limited to employed persons but covers all residents of the country over the age of 16 years, regardless of income. Every person over 16 ordinarily resident in the country is compelled to register and, unless exempt, thereby become insured. The means test, however, excludes those with incomes in excess of £4 a week from receiving cash benefits.

Benefits

Cash Benefits.—All cash benefits in New Zealand are subject to a means test. Like Great Britain, New Zealand provides a flat rate of benefits without relation to previous earnings but, unlike Great Bri-

tain, this single basic rate is supplemented by dependents' allowances, which means that, in practice, the cash benefits vary with the responsibilities of the insured.

The cash sickness benefits provided under the Act were an entirely new innovation in New Zealand's social legislation. The rates of benefit correspond to the existing unemployment benefit rates, which for persons between the ages of 16 and 20 years and without dependents amount to 10s. a week. In every other case the benefit is 20s. a week, increased by 15s. a week for a dependent wife, and 10s. for each dependent child under 16 years of age (increased from 5s. to 10s. in 1941), but not to exceed £4 a week in any case. The maximum rate of benefit of £4 a week is reached when an applicant has a wife and nine or more children dependent on him.

As in the case of unemployment benefits, a limit is placed on the amount of benefit which may be payable in conformity with maximum allowable income of the applicant (the means test), yet no account is taken of the income or earnings of the applicant's wife or dependent children as in the case of the unemployment benefit. Furthermore, in arriving at the maximum allowable income which each applicant may have, no regard is taken of any capital assets, only the income from these assets being taken into account.

It was appreciated when the Act was being drafted that the service given to its members by friendly societies was of a very valuable nature and should not be prejudiced, and the receipt of a cash sickness benefit from such a source should not disqualify a sick person from receiving a benefit from the Social Security Fund. This realization was carried into effect by provision being made in the Act for the maximum allowable income scales for this class of applicant to be increased by £1, so that the maximum allowable income from all sources, including benefit, is assessed at £5 a week for friendly-society members as against £4 for other applicants.

Cash sickness benefit is not payable in respect of the first seven days of any period of incapacity unless the Commission, having due regard to the special circumstances of any case, determines that the benefit shall be payable for the whole or part of that period. In most countries where the schemes are of a contributory nature, the waiting period usually varies from one to three days and the benefits are usually paid at scale rates for periods assessed in accordance with the number of contributions the beneficiaries have made. The New Zealand scheme, however, makes benefits payable for as long as

incapacity lasts after the expiry of the seven days' waiting period. New Zealand justifies this procedure by the fact that during the first few days of incapacity for work a person is considered able to support himself out of his own resources.

Benefits in Kind.—The provision of benefits in kind is gradually being extended under the scheme and the country looks forward to complete health services of every kind when the entire plan is finally realized. Free maternity treatment has been provided from the outset and, at present, free medical service,

pharmaceutical benefits, X-ray benefits and hospital benefits for out-patients are being provided as well.

The general medical service is free to everyone irrespective of income and includes a universal practitioner service, hospital or sanatorium treatment, care and treatment of the mentally afflicted, and maternity treatment, including the cost of maintenance in a maternity home.

Specialist services and the administration of anaesthetics, as well as major and minor surgery, are still outside the scheme.

CHAPTER XXIV

Norway

A compulsory health insurance system was established in Norway in 1909. This original Act covered workers in industry and in 1915 it was extended to cover those in commerce and agriculture. A new Act was passed in 1930 and another in 1935.

Administration

The central administrative body is the National Insurance Office which supervises the enforcement of the Acts and the management of the sickness funds. Working under the National Insurance Office are local sickness funds, of which there is one in each commune, managed by representatives of the communal council, and recognized occupational funds, which must have at least 200 members to secure recognition.

There is a free choice of doctor and the doctor can accept or decline a patient. The doctor is paid, as in France, by the insured person who is repaid in part by his society.

The original Act of 1909 required the insurance societies to enter into contracts with doctors for the provision of medical treatment, but many societies failed to come to an agreement with the doctors and in 1925 an amending Act was passed which introduced the present system of reimbursement of medical fees. Thus, the doctor's fees are paid by the insured person, who, on producing the doctor's receipted bill to his insurance fund, receives a payment from it in accordance with the tariff of fees adopted by the fund. The insured person receives the tariff fee only and, as this is generally lower than the fee charged by the doctor, he has to pay part of his doctor's bill himself. In Oslo in 1929 the insured person paid no less than 32% of the total cost of medical treatment.

This system is very unpopular with the insured population and efforts have been made to return to the original system, but such efforts have met with only partial success.

Financing

Contributions are divided among the insured, the employer, the commune and the state. The insured pays six-tenths of the cost, the employer one-tenth, the commune one-tenth and the state two-tenths.

Voluntary members earning less than 4,500 kr. pay seven-tenths, the employer's contribution being dropped, while a voluntary member whose income exceeds 4,500 kr. pays the whole contribution.

The cost of the central administration is borne by the state, but Parliament may decide that these expenses are to be met out of insurance funds. The scales of contributions depend on the level of earnings of the insured and the sickness risk within each income class.

Scope

Insurance is compulsory for all persons 15 years of age and over employed in public or private service and earning less than 4,500 kr. (about \$1,100) a year. When this income is exceeded the person affected loses all rights, including his past subscriptions.

The Norwegian scheme does not include families, but does include women in industry.

In most countries the means limit is one of earnings but in Norway it is calculated on the entire income and a non-manual worker with an annual income from all sources of 4,500 kr. is not liable to compulsory insurance.

Insurance is voluntary for any person between the ages of 15 and 70 whose annual income, together with that of his wife, does not exceed 6,000 kr. A medical certificate of good health may be required of such persons. If a person passes out of the compulsory class he may take out this voluntary insurance if he applies within one week after ceasing compulsory insurance.

About 20% of the population is compulsorily insured.

Benefits

Cash Benefits.—Cash sickness benefit is paid to persons incapacitated for employment, the rate varying according to the income class in which the insured is graded, for contribution purposes. The benefit equals about 60% of wages. There is a waiting period of three days. The benefits are payable for not more than 39 weeks in respect of any one disease and for not more than 26 weeks in one year. The benefits are always withheld if the insured person is

treated in hospital; in some cases they are replaced by family benefits.

A maternity benefit is provided to any woman who has been a member of the insurance fund for not less than ten consecutive months at the same rate as the sickness benefit, for two weeks before and six weeks after her confinement. A lump sum allowance of 30 kr. is paid to the wife of an insured person as a maternity benefit.

When the insured person is in hospital or a maternity home, dependents, including the wife or husband, are entitled to a benefit equal to 25% of the sickness benefit for one person, 50% for two or three persons, and 75% for four or more persons.

In the event of the death of an insured person or his wife, an allowance of 75 kr. is paid for funeral expenses.

Benefits in Kind.—Medical assistance is provided either in the form of free attendance by a practitioner, with whom the fund has concluded a contract, or in

the form of payment for medical attendance in conformity with scales issued by the administrative authorities. As a rule, it also includes the extraction of teeth by a doctor or dentist. Wives and children over 15 years are also protected by the scheme.

Transportation expenses are met by the funds and free treatment and maintenance in a public hospital are provided if treatment cannot be satisfactorily given at home. The maximum period of such treatment is 39 weeks in respect of any one disease and 26 weeks in any one year.

The maximum period for which hospital accommodation is provided in maternity cases is eight weeks in the case of insured persons entitled to cash sickness benefit, and 15 days longer in the case of other insured persons or the wives of insured persons. Attendance by a midwife, as well as medical attendance, is provided in case of confinement.

About 15% of the total medical insurance funds are devoted to hospital treatment.

CHAPTER XXV

Panama

A social insurance law was adopted by Panama on March 21, 1941, and benefits began to be paid in 1942. The law established a Social Insurance Fund, which has taken over the assets and liabilities of the various pension funds already in existence. Toward the end of 1942 the Fund, on the basis of the experience it had gained, began to examine how the law should be amended in order to adapt it more closely to the requirements of the country.

Administration

The scheme is administered by the Social Insurance Fund, which is managed by a board and a director, appointed by the government.

Financing

The cost of insurance is defrayed by equal contributions of employers and insured persons at the rate

of 2½% of wages, and by other special resources prescribed by the law, such as taxes on alcoholic liquors, etc.

Scope

The scheme applies to employees of the state, the municipalities and other statutory bodies, to manual and non-manual workers employed in undertakings situated in the districts of Colon and Panama, and to independent workers earning less than 3,000 balboas a year.

Benefits

For sickness and maternity the scheme provides medical, surgical, pharmaceutical and hospital treatment. For invalidity, old age and death, there are cash benefits.

CHAPTER XXVI

Peru

The Peruvian system of compulsory health insurance is still in the nascent stage and the National Social Insurance Fund is putting its health insurance programme into force gradually as facilities for the provision of medical care are made available.

The National Social Insurance Fund came into being in 1936 and covers the risks of sickness, maternity, invalidity, old age and death. Because of the backward state of the hospitals of the country, the medical benefit under the sickness provisions must await the opening up of facilities. During 1942 there was a vigorous development and systematic extension of sickness, maternity and pension insurance in all parts of the country.

Administration

The central authority is the Governing Body of the National Social Insurance Fund. The advisory body is the Central Medical Board, which was set up by the Fund to supervise medical and pharmaceutical benefits. The functioning organizations are the hospitals, polyclinics and dispensaries, while the guiding principle of the Fund is standardization of methods, benefits and services.

The Governing Body determines the qualifications for the admission of doctors to the services and the conditions for treatment in the polyclinics and hospitals. It organizes the system of medical attendance in the home, in rural areas and in cases of emergency. It undertakes the supervision of cash benefits and benefits in kind, and the application of the principle of economy.

The National Social Insurance Fund is constructing and putting into service a hospital and dispensary scheme comprising all the equipment necessary for an effective medico-social programme. Until recently the work of the hospitals was confined to the occasional care of patients brought in because of their poverty or because they were *in extremis*. Today the tendency is to transform the hospitals into health centres taking an active part in the medico-social life of the district they serve.

All insurance doctors are employed on a salary basis, although not always full time, and all ambulatory treatment is furnished at health centres by a group of general practitioners and specialists.

Financing

Peru has evolved a unique system for the extension of its hospital facilities. The necessary funds for the expansion of medical aid, including hospitals, clinics, etc., were obtained by collecting, beginning in March 1937, the state's entire contribution (1% of wages) and the employers' partial contribution (2% of wages) which provided a capital sum with which to erect hospitals and clinics. As soon as these institutions are available in each district, the insured population begins to make its payments for hospital benefits.

Thus the contribution of the workers to the National Social Insurance Fund only becomes payable after the medical and welfare services necessary for dealing with the sickness and maternity risks are established in the various districts.

Under the Peruvian scheme the state subsidy is equal to half the contributions. The employer's contribution is greater than that of the worker's.

Benefits

The benefits to which insured persons are entitled under the health insurance clauses of the Act include general and specialized medical attendance, hospital treatment, pharmaceutical requisites and cash benefits.

Hospital treatment and pharmaceutical requisites are supplied by establishments belonging to the Fund or by public or private establishments with which the Fund has concluded a contract for the purpose. Medical attendance is provided directly by the Fund.

Peru plans to follow the lead of Chile and institute periodical medical examinations of the insured population.

CHAPTER XXVII

Poland

Poland inherited in its former German territory a system of compulsory health insurance from the old German legislation and in 1920 compulsory health insurance was instituted for the whole country. Since January 1, 1934, health insurance for the whole country has been regulated by the Social Insurance Act of March 28, 1933.

Administration

With the exception of Upper Silesia, which was German territory before the First World War and where there are several classes of sickness funds as authorized by the Social Insurance Code, insurance is administered by territorial funds of an inter-occupational nature. The country, with the exception of Upper Silesia, is divided into 67 insurance districts. In each district there is a single insurance fund.

In Upper Silesia the German method of medical attendance is followed but in other parts of the country domiciliary treatment has been found unsatisfactory and there is a great overuse of the polyclinics to which all insured persons have unrestricted access.

A person on entering insurance automatically becomes a member of the territorial society of the area in which he works.

Financing

The financial resources are derived from the contributions of the insured persons and their employers.

The insured persons are divided into wage classes, according to their earnings, and the contribution is equal to 6.5% of the basic wage of the class to which they belong. This basic wage corresponds to the lower limit in each class and is fixed at .75 zloty a day in the lowest class.

Three-fifths of the contribution is payable by the employer and two-fifths by the insured person. The employer pays the entire contribution for insured persons whose wages are not paid in cash.

The state must cover the cost of treatment of insured persons who become unemployed. Such persons maintain their right to medical assistance during a maximum period of 13 weeks. The state must also refund one-half of the cost of cash maternity benefit to insured women.

Scope

Health insurance is compulsory for all persons employed as paid workers, irrespective of their age,

occupation and nationality, providing their monthly earnings do not exceed 725 zloty. Domestic servants and home workers are also included.

Agricultural workers, who in certain parts of Poland were liable to insurance, were exempted from this liability after 1933. Since then a special system of medical assistance for agricultural workers and members of their family has been provided.

In 1932 about 7% of the Polish population was compulsorily insured.

Benefits

Cash Benefits.—Cash benefit, equal to 60% of the basic wage, is paid for a period of not more than 39 consecutive weeks, beginning on the third day of sickness.

A maternity benefit, amounting to the basic wage, is paid during the whole period of absence from work, but not for more than eight weeks, six weeks of which must be subsequent to the confinement, to women who have been insured for at least four months during the year preceding confinement. There is also a nursing bonus which lasts for not more than 12 weeks after expiry of the right to the maternity benefit.

The funeral benefit granted in case of the death of an insured person amounts to three times the weekly basic wage. A smaller funeral benefit is also granted the insured person in case of the death of a member of his family.

Benefits in Kind.—Medical assistance, including medical treatment, medicines, therapeutic requisites and orthopaedic appliances, is granted for a period of 39 consecutive weeks beginning on the first day of sickness. Medical assistance and cash benefit may be replaced by hospital treatment with full maintenance. In such cases, the sick person is entitled, if he has one or several persons dependent on him, to an allowance equal to one-half of the cash benefit.

Medical treatment and free medicines during not more than 13 weeks is granted in case of sickness among members of the insured person's family.

Women who have been insured for at least four months during the year preceding confinement are entitled to medical treatment and obstetrical assistance before, during, and after confinement. Members of the family of the insured person are also entitled to obstetrical aid and the nursing benefit.

CHAPTER XXVIII

Portugal

A compulsory system of health insurance was established in Portugal in 1919 but in 1933 this scheme was thoroughly remodelled by several decrees which established a corporative organization of every branch of economic activity. Provision was made for the foundation of social insurance institutions within the corporations set up for every type of industry and trade, and also for the creation of a network of "people's institutes" to cover social risks of the agricultural population.

Voluntary health insurance is likewise well developed in Portugal, the legal status of mutual aid societies being based on a Decree of 1931 which replaced the Decree of 1896.

Administration

As a result of the Decrees of 1933 health insurance is administered by corporative insurance funds and people's institutes.

The corporative bodies are responsible for the organization of insurance funds. The trade unions must collaborate with the employers' associations in setting up funds, both parties sharing in the management of the institutions.

People's institutes may be set up, one in each rural parish, on the initiative of a group of individuals, by the parish council, or by the National Labour and Provident Institution. Every people's institute must establish a mutual benefit society for its full members. The people's institute and the benefit society are managed by the general meeting of full members who are heads of families and by the managing committee it appoints.

Both corporative insurance funds and people's institutes are supervised by the National Labour and Provident Institution.

Financing

The resources of the corporative insurance funds come from contributions paid by the employers and workers at rates fixed by collective agreement and approved by the National Labour and Provident Institution.

The resources of the people's institutes come from contributions paid by the full members and the founding members and, possibly, state grants. The contribution for full members is 1 escudo a month, and that for founding members not less than 5 escudos a month. The state endows every institute with a single initial grant of 4,000 escudos.

Scope

Insurance with a corporative fund is compulsory for all the members of the trade unions which, in pursuance of collective agreements entered into with the appropriate employers' associations, have set up insurance funds.

All persons of Portuguese nationality resident in a parish are entitled to become full members of the people's institute for that parish. Thus the people's institute scheme, as compared with the corporative insurance fund scheme, is not truly compulsory. Rural land owners are founding members of the institute for their parish.

Benefits

As far as the corporative insurance funds are concerned, the extent of the risks covered and the rates of benefit depend on the economic possibilities of the trade unions.

The mutual benefit societies of the people's institutes may engage in insurance against sickness, unemployment, invalidity and old age. They may also set up dispensaries, creches, children's homes and homes for the aged, in accordance with local possibilities. They are also responsible for the local protection of health, especially against tuberculosis.

CHAPTER XXIX

Rumania

Compulsory national health insurance was established in Rumania in 1912. The Act of that year has now been replaced by an Act of 1933 which unified and co-ordinated the provisions for meeting the risks of sickness, accident, maternity, invalidity and death throughout the country.

Administration

Health insurance is administered by the territorial funds or mutual aid funds acting as autonomous bodies.

Financing

The financial resources of the whole social insurance scheme, including health insurance, are formed by contributions from the insured persons and their employers, an extra contribution payable by the employers alone, and a contribution from the state. These moneys go to form the Common Social Insurance Fund, which is responsible for meeting the various risks covered by legislation. This central reserve, common to all funds, is similar to that in France.

The contributions are payable by the employer, who deducts the sum due from the insured person from his wages. They are fixed according to wage classes and may not exceed 6% of the average wage in each class. Persons working on their own account pay the whole of the contribution due for their wage class.

The extra contribution payable exclusively by undertakings employing more than ten persons is at the rate of 1.2% of the wage bill. This contribution is borne entirely by the employer.

The state contributes by a subsidy of 80,000,000 lei annually.

Scope

Insurance is compulsory for all wage earners in public or private industrial and commercial undertakings whose monthly wages do not exceed 6,000 lei, independent workers of small menas, handicraftsmen and homeworkers, whatever the amount of their earnings, and domestic servants. Agricultural workers are not covered by the Act.

Benefits

Cash Benefits.—The insured person is entitled to cash benefit while incapacitated for work. Under the Act on contracts of employment, the employer is bound to pay the worker the whole amount of his wages for the first seven days of incapacity. The health insurance fund begins to pay benefit from the eighth day at the rate of 50% of the average wage for the wage class of the insured person. Benefit is payable for not more than 26 weeks for the same illness, and for not more than 36 weeks during the year for different illnesses.

Insured women who have paid not less than 26 weekly contributions during the 12 months immediately preceding their confinement are entitled to a cash maternity benefit at the rate of 50% of the average wage for the past 12 months. This is payable for 12 weeks, at least six of which must be after confinement. Nursing mothers are entitled to a special nursing allowance for six weeks after the maternity benefit ceases to be payable. The wives of insured men are also covered.

A funeral benefit is payable when the insured person has paid 26 weekly contributions in the course of the past two years. The amount varies between 2,000 and 5,000 lei according to the insured person's wage class.

Benefits in Kind.—The insured person is entitled, from the first day of sickness until recovery, to medical and surgical attendance and to the supply of medicines, artificial limbs, dressings and other medical and surgical appliances.

Insured women who have paid at least 26 weekly contributions during the 12 months immediately preceding their confinement are entitled to attendance by a doctor or midwife and the necessary medicines and dressings. At the insured woman's request the insurance fund may have her placed in a maternity home. In such cases the cash maternity benefit is suppressed or, if the insured woman has dependents to support, reduced by half.

Only the insured person is entitled to cash benefits, but both he and the members of his family living with him are entitled to benefits in kind.

CHAPTER XXX

Switzerland

A Federal Act of 1911 recognized voluntary health insurance in Switzerland and made compulsory insurance permissible. The Confederation encourages sickness insurance by granting subsidies to funds recognized by it. Any insurance fund complying with the provisions of the Act may obtain recognition. So far as the federation is concerned, insurance is optional, but within each canton the public authorities may make insurance compulsory, either generally or for certain categories of persons, or again they may transfer these powers to the communes. Several cantons have adopted compulsory health insurance schemes.

Administration

Health insurance, under the Federal Sickness and Accident Insurance Act of 1911 is administered solely by recognized funds, which may be private funds organized as associations or as cooperative societies, funds set up by institutions and public bodies, and public funds set up by decision of the cantonal or communal authorities for any given group of persons.

Nearly 70% of the physicians in Switzerland are engaged in insurance practice. The fees to doctors average about 2 francs an office visit and 3 francs for home calls.

Financing

The resources of the funds comprise the contributions of insured persons (active members), the contributions of passive members, federal subsidies, cantonal subsidies, communal subsidies, and regular subsidies or lump-sum payments by employers.

The insured person's contribution is calculated on the average duration of sickness, which, for the population of Switzerland, is from seven to fourteen days a year, and on the estimate of the cost of medical treatment and drugs. The subsidies from the public authorities are in proportion to the number of insured persons.

The Confederation also pays special subsidies to cantons and communes which make insurance compulsory for the whole population or for certain groups of persons, provided that they pay the whole or part of the contributions for indigent insured persons.

Scope

Any person domiciled within the territory of the Confederation may, in principle, become a member of a fund if he satisfies the conditions laid down in the rules. The funds are not permitted to discriminate between the sexes in admitting insured persons. The cantons can be divided into four groups as regards compulsory insurance. Nine cantons have made health insurance compulsory for certain groups of the population; some of these include school children in the scheme. Ten cantons have delegated to the communes the right to make health insurance compulsory and many communes have done so. Four cantons have made insurance compulsory within their territory and have given the communes the right to extend the obligation to wider circles of the population. The balance of the cantons have not made use of the right conferred upon them by the Federal Sickness Insurance Act.

Benefits

The benefits granted by the sickness funds may include cash sickness benefit, the payment of the whole or part of the cost of medical attendance, the payment of the whole or part of the cost of drugs, the payment of the cost of a cure or treatment in a hospital, assistance to convalescents, nursing benefit, and funeral benefit.

Because of the complexity of the Swiss system it is impossible to give more detailed information without going into individual studies of the schemes in operation in the various cantons and communes.

CHAPTER XXXI

Union of Soviet Socialist Republics

The Union of Soviet Socialist Republics has the most nearly complete socialized medicine to be found anywhere in the world today. The constitution of the Union provides that "citizens of the U.S.S.R. have the right to maintenance in old age and also in case of sickness or loss of capacity to work."

Czarist Russia adopted compulsory health insurance for industry in 1911 and in 1918 the new government of the country established a health system to cover the entire population. The present Soviet social insurance system is based on the Labour Code of the Russian Soviet Federative Socialist Republic of 1922, which came into force on November 15 of that year and is in operation also in the other Republics constituting the U.S.S.R.

Administration

Until 1933 health insurance was administered by 11 occupational federations in the metal, engineering, coal-mining, ore-mining, basic chemical and petroleum industries and the railways and waterways. Workers in other economic branches were insured with territorial funds. The whole scheme was under the supervision of the U.S.S.R. People's Commissariat of Labour.

A Decree of June 1933, abolishing the People's Commissariat of Labour and the territorial insurance funds, handed over the administration of insurance to the General Council of Trade Unions and its affiliated federations.

The structure of insurance is thus based on the branch of economic activity. The central committees of the trade union federations and their local organs are responsible for administering the schemes, and the General Council of Trade Unions of the U.S.S.R. for the general management of insurance, namely, the supervision of the unions, the issue of instructions, and the submission of the social insurance estimates to the Council of People's Commissaries of the Union for its approval.

In each undertaking or establishment the primary insurance body is the pay centre of the works committee, or some corresponding committee. These committees work under the instructions and supervision of the district or regional trade union committee or the central council of the federation concerned.

All doctors, dentists and nurses are civil servants paid by the government and giving their services to the people as required at no cost to the individual. They are on fixed salaries and the private practice of medicine scarcely exists in the country.

Arrangements have been made, although still of an elementary character, for the medical care of the workers on collective farms and their families, which compose the majority of the population. Such care is provided by rural health stations staffed by a doctor and nurses.

Financing

The whole social insurance scheme, including health insurance, is financed out of contributions from undertakings, establishments and private employers. Insured persons contribute nothing.

Three schedules are in operation for rates of contributions: (1) The Standard Schedule, applying to all undertakings to which special rates are not allowed. The contribution varies with the gravity of the risk and the unhealthiness of the work. (2) The Privileged Schedule, applying chiefly to undertakings and establishments which figure in the budget or local estimates, undertakings depending wholly or largely on money from special sources, and certain undertakings in the mining, metal and other industries. (3) Special and Mixed Schedules, applying to construction work, undertakings working for others, communal undertakings, home work, etc.

As regards financial organization, social insurance in the U.S.S.R. is based on the system of the annual distribution of costs and the constitution of a reserve fund. Since 1937 the cost of the scheme has figured on the general budgets of the governments.

Scope

The health insurance system covers all persons employed by state, public, cooperative or private undertakings, establishments and businesses, and by private persons, whatever the nature and duration of the employment and the manner in which it is remunerated.

In 1933 the number of insured persons totalled 22,156,500.

Benefits

The health services of the Soviet Union are based on the following principles:

(1) Every kind of medical benefit is provided free of charge.

(2) Families and dependents of insured persons are included.

(3) Specialist services are included, e.g., dental, ophthalmic, surgical; drugs, medicines and appliances; orthopaedic treatment and artificial limbs; hospital and convalescent treatment and maintenance in sanatoria and rest-homes.

(4) Medicine is designed to be preventive as well as curative by the establishment of a network of clinics and polyclinics in towns and villages, and factory and rural health centres, and by the special attention that is paid to the health of children, from infancy upwards, and to insuring continuity of treatment.

Cash Benefits.—Cash benefit is allowed from the first day of sickness or incapacity until the insured person recovers or it is decided that invalidity has set in. There are certain qualifications regarding the right of temporary and seasonal workers to secure cash benefits. The amount paid as cash benefit in case of sickness varies with the nature of the work, the length of employment and the insured person's status, and generally with what might be regarded as his value to the community.

Maternity benefit, equal to cash sickness benefit, is payable for 56 days before and 56 days after confinement if the woman in question is employed on manual work or on non-manual work or office work entitling her to maternity leave for a similar period. It is payable for 42 days before and 42 days after confinement to other groups of insured women. Women employed in private undertakings and on seasonal work receive maternity benefit only if they have completed a period of six months' unbroken employment immediately before they cease work. There is also a supplementary maternity benefit for layette and nursing, which is available to certain groups of women only if the last monthly earnings of either parent did not exceed 300 rubles. The rate for each child is 32 rubles for layette and 45 rubles for nursing.

Provision is made for the payment of a benefit to cover funeral expenses as well as the provision of pensions to the surviving relatives. The benefit amounts to 40 rubles for funerals in towns, and 20 rubles for those in the country.

Benefits in Kind.—Medical benefit, preventive and curative, is administered by the Commissariats of Public Health of the Federated Republics, which are required to organize a medical service for the whole population, including insured persons and their families.

Every form of medical benefit—attendance by physicians and surgeons, special orthopaedic treatment, artificial limbs, etc., hospital treatment, preventive measures, maintenance in sanatoria, etc.—is granted to the insured population free of charge. Some of the sanatoria and the great majority of the rest homes belong to the trade union organizations. Workers and salaried employees sent to sanatoria and health resorts receive cash benefit for temporary incapacity during the treatment and the journey, taking into account their annual holiday, even if they are capable of working.

The main features of the maternity service are described as follows in an officially recommended handbook quoted in the Beveridge Report: "The care of the child begins well before it is born. In every city, in every collective or state farm, there are women's medical consultation centres linked up with hospitals, maternity homes, and the Institute of Mother and Child in the big cities. Here the woman who becomes pregnant is encouraged to come for advice. Here she will be examined and given attention. A place will be reserved for her in the nearest maternity hospital. If she is working, her manager will be informed. From time to time she is examined, and if the doctor considers that her work is too heavy for her, she must be put on a lighter job at the same pay. She must receive 8 weeks' pregnancy leave with full pay, and be taken back at her original job. She will receive a layette and an allowance for the extra need during that period. When she returns to the factory she will leave her baby in the factory creches and she will be allowed 30 minutes off from work every 4 hours to feed the baby. If the mother is unable to feed it, there are milk kitchens where she can obtain cheaply the proper milk."

CHAPTER XXXII

Venezuela

On June 14, 1940, the government of Venezuela promulgated the Compulsory Social Insurance Act which had been prepared by a special committee on the basis of a text drafted in collaboration with the International Labour Office.

In the middle of 1942 the government, acting through the Ministry of Labour, began to prepare a Bill to establish a social insurance system for the employees of the federal government. This insurance would cover the risks of invalidity, old age, death and sickness.

The present Act covers the risks of sickness, maternity, industrial accidents and occupational diseases.

Administration

Health and maternity insurance will be applied by a fund in each state of the Federation, but a central institution will supervise the working of the state funds. Both the central social insurance institution and the state funds will be administered by a tripartite council, comprising equal numbers of representatives of the public authorities, employers and insured persons.

Financing

The scheme is financed by equal contributions from the employer and the insured person, the state being liable for the cost of medical equipment and of administration. According to the preparatory studies, the joint contribution to health and maternity insurance will be 5% of the basic wage.

Scope

The Compulsory Social Insurance Act applies to persons employed in industry and commerce.

Benefits

The benefits of health insurance comprise medical care and the supply of necessary medicaments, and a daily cash benefit payable from the fourth day of incapacity at a rate which, according to the preparatory studies, will be two-thirds of the wage. Medical and pharmaceutical benefits will be granted also to the members of the insured person's family.

In case of maternity, the insured woman and the wife of an insured man are entitled to medical care, and the former receives, in addition, a daily benefit equal to the cash sickness benefit during the six weeks preceding and the six weeks following childbirth, on condition of abstention from work.

CHAPTER XXXIII

Yugoslavia

Compulsory health insurance in Yugoslavia is based on the Social Insurance Act of 1922. Under it all voluntary schemes of health insurance in the country were superseded and replaced by a single national scheme.

Administration

The scheme is administered by the Central Workers' Insurance Institution and its local bodies. The Central Insurance Institution is a public body under autonomous administration.

No choice of doctors is allowed beyond those on a selected list, and all the doctors operating under the scheme are on a salary basis.

A person on entering into insurance automatically becomes a member of the territorial society of the area in which he works, unless he is a transport worker, in which case he joins one of the special societies established for that occupation.

Financing

For the calculation of contributions and benefits, the insured persons are grouped in 12 wage classes, the lowest for persons earning not more than 8 dinars a day, and the highest for those earning more than 48 dinars. The basic daily wage in the lowest class is 6 dinars, and in the other classes it is equal to the lowest wage limit of the class concerned.

The expenses of the health insurance scheme are covered by contributions shared equally between the insured persons and the employers. The weekly contribution may not be less than 24% or more than 42% of the basic daily wage.

The only state contribution is to pay for institutional treatment for certain diseases.

Scope

Insurance is compulsory for all persons without distinction of age, sex or nationality who perform physical or mental work for remuneration under a contract of employment.

Agricultural workers and domestic servants employed in agriculture are excluded.

Only a small proportion of the population is insured as relatively few are employed workers.

Benefits

Cash Benefits.—A daily cash benefit is payable if the sickness entails incapacity for work during more than three days. It is equal to two-thirds of the insured person's basic wage and is payable for not more than 26 consecutive weeks.

The maternity benefit is payable for six weeks before and six weeks after confinement at the rate of three-quarters of the insured woman's basic wage. It is granted after completion of a qualifying period of ten months.

There is also a layette allowance at a flat rate of 150 dinars for each child, and a nursing benefit payable for 12 weeks after the cessation of maternity benefit, at the rate of 4 dinars a day.

Benefits in Kind.—Medical attendance, medicine and appliances are provided for a maximum period of 26 consecutive weeks or for as long as the patient receives cash sickness benefit. Polyclinics with special departments supplement domiciliary treatment and in large measure take its place.

Medical attendance for members of the insured person's family living in his household is also provided for a maximum period of 26 weeks.

The services of a midwife and necessary medical attendance are granted only to women who have completed a qualifying period of six months during the year preceding their latest registration with the Central Workers Insurance Institution, or of 90 consecutive days immediately preceding the confinement. This benefit may be replaced by maintenance in a maternity home for not more than a fortnight.

An insured person's wife is entitled, in the event of maternity, to medical attendance and the layette allowance provided the insured person has completed the prescribed qualifying period.

SECTION 3

COMPARISON OF EXISTING COMPULSORY SCHEMES

CHAPTER I

Introduction

In dealing with the rise and growth of compulsory health insurance schemes throughout the world it must be remembered that in the last few decades the development of economic life, with all that it has brought in the increased outpouring of material wealth, has ever tended towards a greater social insecurity of the individual and of the family dependent on him. It is true that life without risks would be a dull and stagnant affair—the desire for adventure is strongly implanted in the human heart—but the risk factor in life, the social insecurity of the mass of the people, is now less a useful spur to thought, effort and mutual aid than an ever-looming threat of wreckage, bringing all the greater anxiety and worry because it is so largely a threat against which the isolated individual is often helpless.

Hence comes the need for the mutual insurance of all members of society against the more serious dangers, a compulsory insurance so that the more secure cannot stand aside and leave the risks to be loaded on the shoulders of the less secure. The recognition of this need has become general. The International Labour Office, in their Year Book for 1937-38 claim that "the principle of social insurance may now be said to have obtained final recognition. Even those countries which had hitherto rejected the idea of organized collective providence schemes for social welfare have come to realize their absolute necessity, and it is generally admitted that material progress calls for the establishment of a system of social security." Again in the Year Book for 1939-40 we read: "The abundance of facts relating to the progress made or proposed in the field of social insurance shows how fully existing or proposed systems, for protecting the workers against the physical and economic risks to which they are exposed, correspond to the needs of the time. It can already be deduced that social insurance schemes will become more and more firmly rooted in the lives of the people."

Social insurance, however, as the chairman of the Social Security Board of the United States told the Santiago Conference of the Inter-American Committee to Promote Social Security, must always be developed with regard to the special needs of the country in which it operates. It cannot be merely transplanted from one country to another.

In Canada we may seem to have lagged behind in the matter of health insurance but there are reasons why Canada—and, for that matter, the United States also—has not yet introduced a compulsory national

health insurance system. It has to be remembered that the earlier health insurance schemes were established in the small, densely populated and highly industrialized countries of Europe and, in particular, that they applied only to industrial wage-earners. The collection of premiums by deductions from wages and the joint contribution from the employers was a comparatively simple matter. Medical facilities were ready to hand, and the country could build upon the habits and institutions of earlier forms of collective thrift. The extension of health insurance to the rural population is a different matter and has proved too difficult for many countries. In agricultural countries where there are large districts having a sparse population and few medical facilities the extension of sickness insurance to the farm population is a late development.

Canada, therefore, is scarcely later than other countries in introducing a health insurance scheme for the farming population, and the difficulties of her wide territories can excuse her for not taking the lead. Canada is admittedly late in establishing health insurance for the industrial wage-earners, but there is a further reason for that. The European countries which led the way were generally those which were wealthier, actually if not potentially, as nations, though their industrial wage-earners were often poor, certainly more poorly paid than those of North America. It seemed less unreasonable, therefore, to expect the industrial wage-earners of Canada and the United States, with higher incomes and higher standards of living, to be better able to provide for their own sickness. Furthermore, it must be remembered that much was already done to improve and protect the health of the citizen by the many services of a comprehensive and efficient public health administration. Nor should be forgotten the aid given by the medical profession to those in needy circumstances or the help of the many generously supported private charitable organizations.

It is the aim of this present section to give as clearly as possible an over-all view of compulsory health insurance schemes which have been discussed separately and in detail in the previous section. In other words, we have seen the individual workings of compulsory schemes in 33 countries, and it is now proposed to discuss the patterns into which they fall and the general tendencies noted when all these countries are studied as a whole. For this purpose no clearer study has appeared than one entitled *Approaches to Social Security: An International Survey*

which was published by the International Labour Office in Montreal in 1942. With its unrivaled sources of information the International Labour Office has been able to present an illuminating discussion on social insurance tendencies in the world today. The work is concerned with the functioning of the four types of social insurance, namely, workmen's compensation, unemployment insurance, health insurance and pension insurance. It is felt that we could do no better than use the material on health insurance in this publication to give a comprehensive picture of the present situation, and the remarks that follow in this section have been taken from *Approaches to Social Security*.

The accompanying tables are merely a compilation of facts presented in the individual studies in Section 2.

Several European countries, instead of proceeding direct from voluntary to compulsory insurance, have experimented with state subsidies to the voluntary insurance movement, first to the sickness and old-age funds and then to the unemployment funds. The weakness of voluntary insurance has always been that the groups most in need of insurance protection, namely those with the lowest wages, the most irregular employment, and the least savings cannot afford to purchase protection unaided. The state subsidy lowers the cost of insurance, though its help is not confined to the poorest members of the fund. Where the subsidy is considerable, e.g., one-fourth of

the cost, and the general standard of living and education is high, as in Denmark and Switzerland, voluntary health insurance has been able to attract the majority of the low and medium-income population, including the peasants, who are a very important class in these countries, and other independent workers; even so, in 1933 Denmark made registration with a sickness fund compulsory for every adult, while numerous Swiss cantons have also placed health insurance on a compulsory basis.

Most countries, however, have preferred to dispense with the phase of subsidized voluntary insurance, either because the social conditions for its success were lacking, or because the state was not ready to provide the subsidy required. The compulsory principle can reach, through the employer, the whole employed population, including apprentices and unskilled workers. Compulsion would not be practicable without other resources besides the contribution of the insured, but, when liability to insurance is defined by the criterion of employed status, an employer's contribution, for which weighty and decisive arguments are advanced, can be and is always imposed, so that the resources of the scheme are greatly increased. By compulsory insurance, industry is required to maintain for its workers a strong protection against destitution. The resources of compulsory insurance are, however, often augmented by a state subsidy, for which the main justification is the interest of the state in the promotion of social welfare.

CHAPTER II

Administration

(See Table 1)

In western and central Europe, where it originated, compulsory health insurance took over, as the basis of its organization, the existing voluntary institutions. Politically, their claims could not be ignored, and, as sole depositaries of administrative experience in this field, their cooperation seemed indispensable for the launching of a compulsory scheme. The voluntary institutions were self-governing mutual benefit societies, the membership of which was drawn from workers in the same occupation or undertaking, or, irrespective of occupation, in the same locality. The voluntary institutions that were occupational in character often represented a survival of mediaeval corporative tradition, and there was at first the hope that the solidarity of feeling and similarity of needs to be found especially in occupational bodies would afford a firm foundation for the application of compulsory health insurance. This expectation was found to be justified only in part.

Even at the outset it was necessary to establish statutory sickness funds on a local basis to take care of persons who would not, or could not, join the existing societies. Moreover, it gradually became clear that a multiplicity of small societies, often operating in the same area, is difficult to regiment into conformity with the stringent administrative exigencies of a national compulsory scheme, and that they could not rise to the opportunities, now beginning to be discerned, which health insurance offers for improving the people's health. A sickness fund must have a territorial basis in order to be able to organize its medical services efficiently, utilizing fully the local medical facilities; contracts with doctors and hospitals must in any case be uniform within the same locality. The fund must not be so large that it loses intimate contact with the insured individual, but its membership must be numerous enough to secure fairly even sickness experience from year to year. Again, occupation has a decisive influence on the morbidity of those engaged in it and, for that matter, on their unemployment: the selection of insured persons by occupation results, therefore, in the concentration of bad risks (*i.e.*, high morbidity and irregular contributions) in some funds and of good risks in others. Hence, the constant policy in most countries has been to strengthen the statutory territorial funds at the expense of the societies of private origin. No new societies are admitted to share in the administration of compulsory insurance and the existing voluntary societies are steadily reduced in numbers by amalgamation. The voluntary societies, however, introduced into

compulsory health insurance, and indeed into social insurance generally, a tradition of democratic self-government which was taken over by the statutory sickness funds.

The territorial organization of compulsory health insurance has invariably been adopted in those countries where no voluntary institutions existed and where, in consequence, the very difficult task of creating an entire organization, albeit a rational one, had to be faced.

In the organization of social insurance the leading tendency has been towards centralization. This tendency, which is paralleled in many other fields of social life, is here characterized by the spreading of responsibility for common risks over an ever more numerous group: occupational schemes give place to those which embrace all trades without distinction, and the area served by an institution grows larger. There is a twofold tendency to reduce the number of institutions while increasing their size, and to smooth out differences between them.

Provision of Medical Care

The financial resources of compulsory health insurance are limited. In the last 30 years the typical contribution rate in Europe has risen from $2\frac{1}{2}$ to 5 per cent. of wages and evidently cannot be increased much beyond the latter figure. Therefore health insurance can hope to keep its medical service abreast of medical progress only by a continuous effort of rationalization. In this effort it encounters the obstacle of the traditional individualism of medical practice, which is firmly upheld in many countries by the doctors' associations. Medicine is a liberal profession, and, while an increasing proportion of doctors have been accepting salaried positions in public health administration, the majority, following the leaders of their associations, have vigorously withstood the attempt of health insurance to regiment them in a salaried service. The doctors' associations have accepted cooperation with compulsory health insurance on two main conditions: first, that health insurance should confine its benefits to the class which had hitherto been unremunerative and which had owed much of its treatment to an honourable tradition of charity upheld by many doctors, and secondly, that insurance practice should differ as little as possible from private practice and should be subject therefore to a minimum of control. Now private practice is still carried on mainly by doctors practising individually, and it may well be that, even at the present day, individual practice can give

TABLE 1.
ADMINISTRATION

COUNTRY	ADMINISTERED		Free Choice of Doctor	METHOD OF PAYING PRACTITIONERS		
	Directly by the State	Through Approved Societies		Salary	Fee Basis	Per Capita Basis
AUSTRIA.....		X	Varies	X	<u>X</u>	
BULGARIA.....	X					
CHILE.....	X		No	X		
CZECHOSLOVAKIA.....		X	No			X
DENMARK.....		X	Yes		X	<u>X</u>
EIRE.....	X					
ESTHONIA.....		X				
FRANCE.....		X	Yes		X	
GERMANY.....		X	Yes	X	<u>X</u>	X
GREAT BRITAIN.....		X	Yes			X
GREECE.....						
HUNGARY.....	X		No			
ITALY.....		X				
JAPAN.....		X				
LATVIA.....		X				
LITHUANIA.....	X		No	X		
LUXEMBURG.....		X				
NETHERLANDS.....		X				
NEW ZEALAND.....	X		Yes		X	
NORWAY.....		X	Yes		X	
PERU.....	X		No	X		
POLAND.....	X		No	X		
PORTUGAL.....		X				
RUMANIA.....		X				
SWITZERLAND.....		X				X
U.S.S.R.....	X		No	X		
YUGOSLAVIA.....	X		No	X		

Underlined X means more usual procedure.

satisfactory results in cases where expense is no barrier. Health insurance, however, must provide the best treatment it can for the money at its disposal. If it is obliged to organize its medical service on the basis of individual practice, it can only obtain a result which is inferior, not only in amenities, but also in efficiency, to that of private practice as exercised among the well-to-do.

In western Europe especially, the medical service of compulsory health insurance is organized very largely on the lines of private individual practice. The medical association negotiates with the federation of sickness funds the scale of remuneration and other terms of service for doctors engaging in insurance practice. Subject to any restriction which the medical association may impose to prevent over-

crowding of the insurance service, all qualified doctors may participate, and the insured person enjoys in principle free choice among the doctors of the vicinity. The prevailing method of remuneration is by a fee varying with the nature of treatment afforded to the patient; but in Great Britain a uniform annual capitation fee has been adopted for its general practitioner service. Doctors, as a rule, carry on private as well as insurance practice and they work individually in their own consulting rooms.

Economy in the organization of the insurance medical service is an especially pressing consideration in countries where there is a very wide difference between the standard of living of doctors and that of manual workers, so that the cost of the service tends to be high when expressed in terms of wages.

In central and eastern Europe, the provision for specialist treatment at least has been rationalized. In the towns the sickness funds establish fully equipped clinics where salaried specialists attend daily in order to treat patients referred to them by general practitioners. Dental care is also given at clinics, in the rural areas. A single salaried doctor may be employed by the local fund to treat all insured persons in a given district.

In Chile, and now in Peru also, the rationalization of insurance practice has been carried further. All insurance doctors are employed—though not always full-time—on a salaried basis, and all ambulatory treatment is furnished at health centres by a group of general practitioners and specialists. To meet the extremely difficult problem of bringing medical care to sparsely populated rural areas, the insurance institutions maintain a service of travelling dispensaries to visit the sick at first-aid posts distributed over the country. Ambulances remove to the nearest health centre or hospital cases which need special care or supervision. It may be added that in Peru, Ecuador and Bolivia, the social insurance funds have begun to create a network of hospitals and clinics of their own in order to make up for the deficiencies in the national health equipment.

The group practice of medicine is not commanding itself only to compulsory health insurance which, operating among workers with a low standard of living, must exercise the utmost economy: it is also coming to be regarded in the United States as the form of practice which is destined to predominate in the private schemes of voluntary insurance for the middle-class population. Substantial advantages indeed are claimed for group practice. Modern methods of diagnosis and treatment require an extensive and costly equipment of which only a group of doctors practising at the same centre can economically avail

themselves; medical supplies, auxiliary staff, and overhead charges are likewise relatively cheaper for several doctors working together. The representation of different specialities within the group of physicians enables the diagnosis to be settled and the treatment to be prescribed efficiently and without loss of time for doctor or patient. Group organization enables doctors to maintain one another's morale and to afford one another opportunities for further study and for leisure. The group system is not incompatible with the choice by the patient of a particular physician as his family doctor, giving general advice and co-ordinating treatment furnished by the members of the group. It is pointed out that the family doctor practising alone is disappearing in American cities, and that the public tends to run from one specialist to another without any guidance or without continuity or coordination in treatment. Group practice provides an effective check for this wasteful and dangerous tendency.

The opposition of the medical profession to the rational organization of insurance medical service is likely to be weakened by the gradual narrowing of the field of private practice. It is obvious that in Europe, at all events, the classes on whom the doctors relied to supply their private patients are disappearing. In parts of central and eastern Europe and in Latin America, these classes have never been large, while the supply of doctors has increased. In these circumstances the medical profession begins to consider more favourably the idea of a salaried medical service, general in scope. The Chilean doctors were probably the first to propose a comprehensive national medical service for the mass of the population. The fact is that once the whole employed population, wives and children included, is brought within the scope of compulsory health insurance, the great majority of doctors, dentists, nurses and hospitals find themselves engaged in the insurance medical service, which squeezes out most of the private practice on the one hand, and most of the medical care hitherto given by the public assistance authorities, on the other. The next step to a single national medical service is a short one and a bill to create such a service is now under consideration in Chile.

A national medical service is already in operation in New Zealand and in the Soviet Union, where every inhabitant is entitled to free medical attendance, drugs, and hospital treatment. In the former country no change has been made in the method of furnishing medical care, which remains that of individual practice; the doctor is refunded by the state a fixed fee per visit or consultation and is not legally entitled to additional remuneration from the patient.

CHAPTER III

Financing

(See Table 2)

The genesis of social insurance or other form of social security service may be regarded as a process in three phases. First, there is the perception by society of an economic need among its members which, for its own preservation or progress, it must meet. Second, there is the discrimination of the parties to whom the financial responsibility for the needy members can be attached. Third, there is the question of the measure in which the need is to be met, having regard to the allocation of responsibility, and to the economic abilities and political strength of the parties laid under contribution. The financial provisions of a social insurance scheme result from the second and third phase.

The Contributing Parties

We have seen that all social security services stem from primitive forms that embody principles so ancient that their validity has become axiomatic. These primitive forms are the general responsibility of the master for the servant, the mutual aid practised within occupational and other limited groups, and, subtended under these, the broad and vague responsibility of the community for its members. When the earliest legislation on workmen's compensation, health insurance and pension insurance came to be drafted, it seemed natural to invoke these principles.

A broad uniformity of practice has been brought about as a result of a combination of considerations of administrative, financial and political feasibility; these considerations are supported by arguments which, starting from a variety of premises, arrive at similar practical conclusions.

This uniformity is the result of the almost universal adoption of the device of the joint contribution of worker and employer, which was used in local schemes of compulsory health insurance in Germany a century ago. The importance of this device for the development of social insurance was fundamental. Irrespective of any theoretical arguments, it is evidently much easier to persuade employers and workers to agree to share a charge than it is to impose it wholly on one or the other. Moreover, the joint contribution can probably be fixed at a higher sum than could conceivably be obtained from either party alone. The contribution may indeed suffice to cover the entire cost of the scheme, particularly if it is a question of health insurance, and the Government may thus be able to float the scheme without having to go to the taxpayer for money. But the

joint contribution has other merits. It is relatively easy for the insurance fund to collect the joint contribution from the employer and for him to deduct the worker's share from wages. At one stroke the joint contribution renders compulsory insurance feasible for the mass of industrial wage earners, who constitute just the class that has the greatest need of it.

The majority of health insurance schemes are supported by workers' and employers' contributions. For this branch of social insurance the fashion was set by the German Act of 1883. Where sickness is covered by a law which provides for pensions also, the state subsidy is generally earmarked for the pensions, but this is not the case for Chile (1925 Act) or Peru. In Great Britain, Eire, and Norway, health insurance as such receives a substantial grant from the state. In the Soviet Union the cost of temporary incapacity benefits is borne entirely by the contributions of the undertaking.

Of the five national insurance schemes, three (New Zealand, Norway, Sweden) are financed by contributions of citizens, as prospective beneficiaries, and by subsidies from general taxation; while two (Denmark, Finland) impose certain charges on employers as such besides.

As regards the proportions in which the several contributing parties share in the cost of insurance, one broad generalization can be formulated: that, where both workers and employers contribute, their shares are equal, whether or not the state contributes as well.

There are, however, important exceptions, particularly in the most recent legislation. These exceptions, having regard to the dates of the laws concerned, suggest a tendency to increase the employer's share and decrease that of the worker.

The German health insurance scheme of 1883 charged two-thirds of the cost to the worker and one-third to the employer; moreover, the scheme paid the temporary incapacity benefit in case of industrial accident. This arrangement had been used in local schemes already thirty years earlier which covered temporary incapacity, whether due to sickness or accident. It has persisted down to the present time, though an Act of 1933 has authorized the government to equalize the shares of the contribution. The same arrangement was adopted in Luxembourg and Austria; the latter country, in 1935, established a single contribution, equally shared, for all four branches of social insurance. In Norway, since 1909, three-fifths

TABLE 2.
FINANCING

COUNTRY	CONTRIBUTORS			CONTRIBUTIONS				Insured Divided into Wage Classes	
	Insured	Employer	State	Type		Amount			
				Flat Rate	Percentage of Wages	Total	Insured		
AUSTRIA.....	50%	50%	No					No	
BULGARIA.....	33-1/3%	33-1/3%	33-1/3%		X			Yes	
CHILE.....	24%	59%	17%		X	8-1/2% of weekly wage	2% of weekly wage ¹		
CZECHOSLOVAKIA.....	50%	50%	No		X			Yes	
DENMARK.....	X	No	\$ ^{2,3}				Average weekly contribution is 0.41 krone		
EIRE.....	39%	39%	22% ⁴	X			4d weekly	No	
ESTHONIA.....	50%	50%	No		X		1% to 2% of wages	Varies	
FRANCE.....	50%	50%	S		X	8% of wages	4% of wages		
GERMANY.....	50%	50%	No		X	Cannot exceed 6% of wages			
GREAT BRITAIN.....	43%	43%	14%	X			5-1/2d ⁵	No	
GREECE.....	X	X	No				1.6% of mid-point of wage class	Yes	
HUNGARY.....	50%	50%	S			Cannot exceed 6% of wages		Yes	
ITALY.....	50%	50%			X	3% of daily wage ⁶			
JAPAN.....	45%	45%	10%		X		Cannot exceed 3% of wages	No	
LATVIA.....	37-1/2%	37-1/2%	25%		X		Cannot exceed 2% of wages		
LITHUANIA.....	33-1/3%	33-1/3%	33-1/3%		X		Cannot exceed 3% of mid-point of wage class.	Yes	
LUXEMBURG.....	66-2/3%	33-1/3%	S		X	Cannot exceed 4.5% of normal wage			
NETHERLANDS.....	50%	50%	No		X				
NEW ZEALAND.....	X		X		X		£1 a year plus 5% of income	No	
NORWAY.....	60%	10%	20% ⁷		X				
PERU.....	X	X	S ⁸		X				
POLAND.....	40%	60%			X	6.5% of basic wage		Yes	
PORTUGAL.....	X	X							
RUMANIA.....	X	X	S		X	Cannot exceed 6% of midpoint of wage class		Yes	
SWITZERLAND.....	X		S ⁹						
U.S.S.R.....	No		100%					No	
YUGOSLAVIA.....	50%	50%	No		X			Yes	

¹ Covers all branches of social security.² S — Sudsydy.³ Communes pay a large share of the costs.⁴ Plus cost of central administration.⁵ Figures are for men.⁶ For land and river transport workers.⁷ Commune pays 10% of cost.⁸ Equal to half the contributions.⁹ Also cantonal subsidies, communal subsidies and employers' subsidies.

of the cost of health insurance has been borne by the worker. No wage-earners' sickness scheme of more recent date has provided for a worker's contribution higher than that of the employer. Higher employers' than workers' contributions are found in several general schemes of health and pension insurance combined (Chile, 1925; Greece, 1932; Peru, 1936). Several instances are indeed to be found of a sharing of the contribution that varies with the wage class; these represent an extension of a principle much more frequently applied, namely, that the employer should pay the entire contribution in the case of apprentices or workers with exceptionally low wages.

The state subsidy to social insurance may assume either of two typical forms. It may be granted in aid either of the general revenue of the scheme or of certain benefits (or even administrative expenses).

The state subsidy is, as one might expect, very considerable in the national insurance schemes, partly to make up for the lower rate of contribution, partly because the universal scope of the scheme justifies a fuller measure of aid from public taxation.

Contribution and Risk

Equality between the premium and the probable benefit is of the essence of insurance, and private insurance endeavours as far as is practicable to adjust the premium to the value of the individual risk. Social insurance, because it is insurance, takes account of this principle; but because its purpose is social, it must also have regard to the social adequacy of its benefits and seek to prevent destitution in the largest possible number of cases. Social insurance has to find a balance between these diverse motives, a balance which can only be arbitrary, and shifts according to change in public opinion.

The risk that an individual introduces into social insurance varies with his susceptibility to disease, accident and unemployment, and important indications of the degree of risk are age, sex and occupation; if his insurance provides benefits for his dependents also, their number, age and sex are significant. How far does social insurance take account of these degrees of risk in the relation which it establishes between contribution and benefit?

The grouping of workers by occupation, each occupation covering its own risk, is exemplified in all branches of insurance. The trend of the development of social insurance organization is, however, towards the massing of the working population in general, inter-occupational schemes, workmen's compensation alone being left to vary the contribution according to the specific risk of each occupation.

Whether the scheme is general or occupational in its scope, the prevailing rule is that the contribution

rate is unaffected by the sex, age or family responsibilities of the worker concerned, whereas these factors do affect a wide range of benefits, and so likewise does the record of the claimant as contributor and beneficiary. The manner and degree in which benefits are affected varies from one branch of social insurance to another, and among the several benefits of the same branch.

Social insurance limits its liabilities by fixing maxima for the rate and duration of benefit, and by reducing its clients to a select group. The selection is effected, firstly, by barring from entry into insurance persons whose advanced age marks them as immediate candidates for benefits; and secondly, by obliging insured persons to prove that they possess normal health and employability by completing a qualifying period of insurance, before claiming benefit. The branches of insurance may be arranged as follows according to the increasing degree in which selection is effected: accident, sickness (age and short qualifying period or none); unemployment (age and medium qualifying period); pension (age and long qualifying period).

Within the select group of insured persons entitled to benefit if the loss insured against occurs, there remains, however, a wide diversity of risk, as indicated by age, sex and family responsibilities. In contrast to private insurance, even as practised by mutual benefit societies, compulsory social insurance intentionally allows certain groups to make heavier claims on the benefit fund than others paying the same contributions. For example, elderly individuals and women are a greater charge on health insurance, while persons having dependents can procure for them the extensive medical benefits, allowances and pensions which social insurance provides for wives and children.

In social insurance the principle of equality between the premium and the probable benefit nevertheless finds a rational, if crude, application. Social insurance proceeds from the hypothesis that the vast majority of insured persons enter insurable employment straight from school and remain as long as they are able; many young women will, it is true, leave employment on marriage, but their husbands are likely to be insured persons. The entrants into insurance traverse a typical or average history, making smaller demands on benefits at some stages, larger at others, and they pay a level premium throughout their insurance career.

In the great majority of social insurance schemes, contributions are proportional, and uniformly so, to wages. The question now to be considered is whether high and low wage earners obtain propor-

tionate returns for the contributions paid on their account.

In accident, health and unemployment insurance the contribution represents essentially the cost of current protection until the next contribution falls due, and the number of contributions previously paid does not, in principle, affect the rate of benefit. As a rule, the proportion of the contribution rate to the cash benefit rate is uniform. This proportionality is, however, often modified by provisions for minimum rates and dependents' allowances, while, in some recent schemes of unemployment insurance specially, the benefit rate is graduated so as to favour low wage earners. Moreover, the contributions in accident and health insurance also finance medical benefits and administrative expenses, which are identical in content for high and low wage earners alike. Suppose, for example, that the contribution is four per cent. of wages, and that the sickness benefit absorbs one per cent. of wages and medical benefit and administrative expenses the remaining three per cent. Then the contribution of a worker whose wages are 100 is charged with only half as much for these latter services as that of a worker whose wages are 200.

It thus appears that the contributions of low wage earners are, as a rule, insufficient to cover the cost of their benefits. The deficit is met by a transfer from the contributions of high wage earners and, where such is provided, by the whole or a larger share of the state subsidy. Social insurance laws and explanatory memoranda are reticent concerning the manner in which the contributions paid in respect of an individual are appropriated for the benefit of another whose need is greater. It seems safe to assert, however, that the high wage earner, in almost every scheme, obtains a full return for his share of the joint contribution. The extent to which the employers' share is used to help the needier beneficiaries—not only low wage earners, but also elderly entrants into pension insurance—depends in part on the presence of a state subsidy and on its sufficiency.

Financial System

A social insurance institution, unlike an insurance company, can generally count upon a permanent body of contributors and an unlimited life, so that it need not provide against eventual liquidation. Moreover, especially in long-term insurance, the rates of contributions and benefits under a social insurance scheme are established less rigidly than they are under a private insurance contract. But, in social insurance, as in private insurance, cash must be available to pay benefits as they fall due, and the test of actuarial solvency at any date is the same, namely,

the equivalence of the present values of probable revenue and expenditure.

The financial system of a social insurance scheme consists of the mechanism whereby an equilibrium is maintained between its resources and its charges. According to the nature of the risk and the benefit, it may be expedient to balance benefit expenditure by contribution income either over a short period or over a long, even indefinitely long, period. In any case the financial system should be such that the contribution rates should remain as steady as possible, or, if they have to be increased, that the increase should be gradual, in order that the contributors may have time to adapt themselves to the change. Since the correspondence in time between benefits and contributions can never be exact, a social insurance scheme must always provide for a reserve. The financial systems used in social insurance schemes belong to two principal types: the assessment system and the accumulation system.

The assessment system aims at maintaining a current equilibrium between income and outgo by the adjustment of contributions or, occasionally, of benefits. The adjustment is effected annually or at longer intervals. The system requires the maintenance of a contingencies reserve in order to moderate the fluctuation of the contribution rate.

The accumulation system is used wherever an insurance scheme provides for benefits the cost of which is calculated to increase year by year over a long period, and it is desired to meet the cost by a contribution which remains level throughout the period. Part of the contribution is used, as in the assessment system, to pay benefits at the level attained immediately after the inception of the scheme and to provide a contingencies reserve. The surplus contribution revenue in the earlier years is accumulated to form an actuarial reserve, the interest on which meets the deficiency of the contribution revenue in the later years. The adoption of the accumulation system does not secure that the contribution will not be varied in the course of the period covered by the calculations, but only that it will not be raised to meet such part of increasing expenditure as can be forecast. The accumulation system is an assessment system that has added to it a mechanism for methodical saving.

It is in the size of the reserve and in the part that it plays that the two systems mainly differ. In the assessment system the purpose of the reserve is to meet, by a capital payment, any unforeseen and exceptional excess of outgo over income, and the interest which the reserve fund supplies is of quite secondary importance. In the accumulation system,

on the other hand, the function of the reserve is to earn interest, and, as it accumulates, to cover an increasing share of the total expenditure, the increase being due, not to chance, but to an expected growth in the rate of benefit or in number of beneficiaries or to both. The ultimate reserve, in order to provide a substantial interest income, must evidently be large as compared with the premium income.

Health insurance everywhere is financed on the assessment system. This is so even where health and pension insurance are coordinated within the same legislation, for the two branches are kept financially separate, health insurance being assigned a definite part of the total contribution; only in Great Britain, where health insurance provides incapacity benefits without limit of time, is the accumulation system used. It may indeed be said that the benefits of health insurance are designed in such a way as to render the use of the assessment system appropriate. The mutual-aid movement, from which compulsory health insurance is derived, was carried on by small local societies that could operate only on an empirical basis, providing benefits of limited duration and balancing their accounts from year to year. Modern sickness funds, of course, have more refined methods of keeping income and outgo in equilibrium. The

number of days of sickness per member per year varies but little in a large fund. Even in a small fund of a few hundred members a reserve equal to one year's expenditure is in almost all countries judged to be ample. Such a reserve, of course, can only be built up gradually, by allotting to it a margin—i.e., 5 or 10 per cent.—allowed for in the contribution or, if the whole margin is not available, then whatever surplus the year's working may leave. Until the reserve is constituted, the contribution rate is more often subject to upward variation, and the grants for benefits additional to the minimum which the law prescribes are restricted. Later, the contribution may remain regular from year to year, except in so far as the fund in the exercise of its autonomy decides to finance additional benefits, not out of surplus, but by raising the rate of the normal contribution. In several countries the contribution rate is uniform, and a legislative amendment is necessary in order to alter it. Such regularity is made possible by the complete financial centralization of health insurance (e.g., Chile, Peru) or by the creation of a central reserve common to all the sickness funds (e.g., France, Rumania). Here the assessment system means hardly more than the periodical checking of a financial equilibrium which is inherently stable.

CHAPTER IV

Scope

(See Table 3)

Unlike workmen's compensation, compulsory health insurance and, for that matter, pension insurance and unemployment insurance, do not rest on any juridical principle rooted in the common law; their justification is essentially pragmatic. But just as workmen's compensation requires an employer to take the liability, so the other branches need him in order to share the contributions and to collect them.

Compulsory health insurance in most countries has been applied from the beginning to persons employed in industry and commerce; a few countries, however, have begun with the urban or industrial wage earners only. In agricultural countries where there are large districts having a sparse population and few medical facilities, the extension of health insurance to the farm population is a late development, not yet completed in parts of eastern and southern Europe. Several South American states are attacking the problem of agricultural workers' insurance by advancing district by district, first equipping with the necessary minimum of facilities the area to be served, and then putting the insurance into effect. By 1939, health insurance for workers in industry and commerce had been established in a score of countries, but agricultural workers were covered in half a dozen only.

Non-manual workers whose salary exceeds a certain level are excluded from compulsory health insurance in a certain number of countries, just as they are from workmen's compensation. In several countries a special reason for their exclusion from health insurance is the unwillingness of the medical profession to see restricted the area of their private practice. The salary limits seem to have been fixed much too low to enable the excluded workers to dispense with insurance altogether, so that they must therefore contribute to a voluntary sickness fund. It cannot be asserted, however, that the salaried employees have raised any strong objection to their exclusion from compulsory insurance; in some countries they may even have appreciated their exclusion as a social distinction. But times are changing quickly, and a 1941 amendment of the British scheme raising the salary limit by 60 per cent a year, has been welcomed.

In industrialised countries the great majority of persons in the low income group are no doubt found within the ranks of wage earners, but inability to provide against sickness is not, of course, identified with employed status. There is clearly a need in several countries for health insurance among the

more or less numerous class of independent workers of small and moderate means, but in the absence of an employer, it has not been considered feasible to make insurance compulsory for this class. Instead, most schemes offer them voluntary insurance under certain conditions designed to keep out bad risks. Usually a person who has proved by completing a qualifying period of compulsory insurance that he is a normal risk is allowed, on ceasing to be employed, to continue his insurance as a voluntary contributor. Independent workers as such are, in some countries, admitted to voluntary insurance within the statutory scheme under conditions as to health and age similar to those required by private sickness insurance. Surprisingly little advantage seems to be taken of this opportunity, for only a very small proportion of the members of many statutory health insurance schemes are voluntary contributors. Various inconsistent reasons may explain this poor result: ordinary improvident optimism, inability to pay the entire contribution, continuance of earnings from business during temporary illness, preference for a private sickness fund.

Several countries which have an important agriculture characterized by peasant farming and which are highly democratic in culture have preferred to identify the scope of their health insurance schemes, not with employed status, but with citizenship, so that they apply to the whole or the greater part of the adult population. Such schemes are operating in Denmark, New Zealand and several Swiss cantons.

There is a strong, broad tendency to bring all persons employed in manual work and the lower ranks of salaried employees within the scope of compulsory insurance in all its branches. This is an accomplished fact in most of the highly industrialized countries, so far as industry and commerce are concerned. The penetration of agriculture by social insurance proceeds more slowly.

As regards the exclusion of workers whose earnings exceed a prescribed amount, the present situation is that in the 30 countries where social insurance is of some importance, about one-fourth of the schemes include all such workers and another one-fourth apply the earnings-limit only to salaried employees. The exclusion of higher paid workers is particularly frequent in those schemes which receive a subsidy from the state. The prescribed limit, which can hardly be other than an arbitrary figure, is adjusted only tardily to change in the general level of wages and in the cost of living.

TABLE 3.
SCOPE

COUNTRY	OCCUPATIONS COVERED			INCOME LIMIT FOR		DEPENDENTS COVERED		Ages Covered	Percentage of Population Covered
	Wage Earners (Manual Workers)	Salaried Employees	Others	Manual Workers	Others	Wife	Children		
AUSTRIA.....	Commerce Industry Mining Agriculture Personal Services	Commerce Industry Mining Agriculture Personal Services				X	X		66%
BULGARIA.....	All	All				No	No		31%
CHILE.....	All	All	X	12,000 pesos	12,000 pesos	No ¹	No ¹	All under 65	30%
CZECHOSLOVAKIA.....	All	All	X			X	X		47%
DENMARK.....	All ²	All ²	All ²	4,200 kroner ³	4,200 kroner ³	No ⁴	X	21 to 60	80%
EIRE.....	All	All		None	£250	No	No	All over 16	16%
ESTHONIA.....	Industry Mining Navigation Buildings	Industry Mining Navigation Buildings	Small masters			Optional	Optional		
FRANCE.....	Industry Commerce Agriculture	Industry Commerce Agriculture	Home-workers	15,000 to 25,000 francs	15,000 to 25,000 francs	X	X	13 to 60	50%
GERMANY.....	All	All	X	None	3600 R.M.	Optional	Optional		66%
GREAT BRITAIN.....	All	All		None	£420	No	No	14 to 65	40%
GREECE.....	All	All							
HUNGARY.....	All except agricultural workers	All		None	3600 pengo	X	X		
ITALY.....	Industry Commerce Transport Agriculture Seamen and Airmen	Industry Commerce Transport Agriculture Seamen and Airmen			9600 lire	In some schemes only	In some schemes only		22%
JAPAN.....	Industry Mining			1200 yen		No	No		3%
LATVIA.....	All	All	X			Optional	Optional		
LITHUANIA.....	All but agricultural workers	All	None	4800 litas	4800 litas	X	X		
LUXEMBURG.....	All	All	None	None	10,000 francs	No	No		
NETHERLANDS.....	All	None	None	3000 florins		No	No		
NEW ZEALAND.....	All	All	All	£208 ⁵	£208 ⁵	X	X	All over 16	
NORWAY.....	All	All			4500 kroner	No	No	All over 15	20%
PERU.....									
POLAND.....	All except agricultural workers	All	Home-workers	8700 zloty	8700 zloty	X	X		7%
PORTUGAL.....	Trade union members								
RUMANIA.....	All except agricultural workers	X	X	72,000 lei	72,000 lei	X	X		
SWITZERLAND ⁶									
U.S.S.R.....	All	All	All	None	None	X	X		
YUGOSLAVIA.....	All except agricultural workers	All	None			X	X		

¹ Consideration now being given to extending scope to dependents.² Either actively or passively insured.³ Limit for active insurance.⁴ Expected to be insured in her own right.⁵ Limit for receipt of cash benefits only.⁶ Considerable variation in schemes.

The problem of bringing independent workers within the scope of social insurance received little attention until a few years ago. On the one hand, there did not seem to be any vigorous well-organized demand for protection from this group, and, on the other hand, no convenient substitute for the employer as collecting agent could be devised, while the state was not ready to take his place as a contributor. The example of the successful working of social insurance among wage earners, the fact that the latter's insurance was being subsidized, and the chronic instability which has affected all means of

livelihood in the last decade have, however, combined to render the protection of insurance more desirable and to create a demand for it among independent workers.

In several countries, where independent workers, principally farmers, form a very important group, pension insurance, and in a few countries health insurance also, have been established on a national basis, with citizenship instead of employed status as the criterion of insurability. Thus, at one stroke, the whole adult population has obtained security against one or more of the social risks.

CHAPTER V

Benefits

Risks

The functions of health insurance are to provide preventive and curative medical care and partial compensation for loss of wages in case of illness of non-occupational origin, for a limited period. Of the total volume of temporary incapacity among employed persons generally, about nine-tenths is of non-occupational origin. While health insurance is concerned mainly with illness due to diseases, it must also take care of non-occupational accidents, which, among the employed population generally as distinct from workers in hazardous occupations, appear to be about as frequent as those of occupational origin. Health insurance has thus a much larger case load to deal with than workmen's compensation; disease accounts for the great majority of its cases and this fact has diverted attention from the relatively small but nevertheless important group of injury cases.

The definition of the events giving rise to the benefit of health insurance is simple: the need for medical care and inability to continue one's usual work by reason of illness, both of them conditions the presence of which only the medical attendant or medical referee is competent to ascertain. The worker does not have to prove that the illness is non-occupational; for it is incumbent on health insurance to relieve in the first instance and without question all insured persons needing medical care. In cases where the responsibility of workmen's compensation appears to be involved the worker will claim compensation if it is advantageous to him; and should he not enforce his claim, the sickness fund will act in his stead in order to reimburse itself. Health insurance in central and eastern Europe regularly undertakes the payment of temporary incapacity benefit in case of industrial accident.

Being so broadly conceived from the outset, the definition of the events giving rise to benefit could hardly be widened and progress has consisted mainly in the enlargement of the range of beneficiaries and benefits. Nevertheless, the ever-growing importance attached to prevention has affected the notion of incapacity. In the earliest practice of health insurance, incapacity meant that a man felt too ill to work and that his subjective impression was corroborated by the diagnosis. Nowadays, however, incapacity is understood to be a condition in which continuance of employment would endanger the patients' health or delay his recovery.

With every scheme of compulsory health insurance is combined a maternity insurance. The periods of abstention from work before and after confinement

are assimilated to periods of incapacity due to illness, and the medical service of health insurance provides the necessary care. Maternity benefits, it may be noted, were included in the original German Act of 1883, where their introduction asserted, for the first time but decisively, that social insurance was concerned with welfare, not of the individual only, but of the family also.

Lastly, every scheme of compulsory health insurance, except that of Great Britain, grants a modest funeral benefit, the typical amount of which is one month's wage, and thus rounds off the protection insurance affords against the expenses and wage loss incurred through illness.

Cash Benefits

(See Tables 4, 5 and 6)

The principal cash benefit of health insurance is a daily sickness benefit, payable during incapacity for work caused by illness.

The right to the benefit depends upon the possession of insured status by the person contributing to the scheme. However, in almost all schemes (the British scheme is a notable exception) the possession of insured status is practically as automatic as it is in compulsory accident insurance. It is sufficient to be employed in an insurable occupation in order to be entitled to the principal cash benefit, if not immediately, then after a short qualifying period; for maternity benefit and for additional benefits of a costly nature a longer period may be required.

Sickness benefit is almost everywhere proportionate to the wages recently earned by the claimant. The basic wage may be the actual wage or the average wage corresponding to the wage class within the limits of which the actual wage is included. It is the same as the wage on which the contribution is calculated, and is always subject to a maximum, whether higher paid workers are insured or not. A waiting period of a few days is generally imposed, and the benefit only begins to run from the end of that period. The benefit is fixed most frequently at 50 per cent. of the basic wage, but under some schemes the percentage is 60 or even $66\frac{2}{3}$ per cent.

The higher percentages are perhaps most characteristic of schemes adopted in the last 15 years, but it cannot be affirmed that there is any definite tendency to raise rates of sickness benefit or to increase the proportion which sickness benefit bears to wages. Until very recently it was rare for the statutory benefit to be adjusted to the family responsibilities of the beneficiary, though in countries where there

TABLE 4.
CASH BENEFITS
(1)

COUNTRY Est.	SICKNESS							1 None if illness continues more than 4 days. * Has also a Preventive Rest Benefit, equal to 100% of wages, with no time limit.	
	Included in Scheme	Amount		Qualifying Period	Waiting Period	Time Limit	Dependents' Allowances		
		Flat Rate	Percentage of Wages						
AUSTRIA.....(1888)	X		66%-80%		3 days ¹	52 weeks	None		
BULGARIA.....(1918)	X		X	8 weeks	None				
CHILE.....(1924)	X ²		100%—1st wk. 50%—2nd wk. 25%—thereafter		4 days	52 weeks			
CZECHOSLOVAKIA.(1919)	X		66-2/3%	None	3 days	52 weeks			
DENMARK.....(1933)	X		Cannot exceed 80%	6 weeks	3 days	26 weeks			
EIRE.....(1911)	X	15s.—men 12s.—women		26 wk. for half benefit 104 wk. for full benefit	3 days	26 weeks			
ESTHONIA.....(1917)	X		50-66-2/3%	None	3 days	26 weeks			
FRANCE.....(1930)	X		Depends on aggregate amount of contributions				1 fr. for each child under 16		
GERMANY.....(1883)	X		50-75%		None	None for curable cases, otherwise 26w.			
GREAT BRITAIN...(1911)	X	15s. per week		26 wks. for half benefit 104 wks. for full benefit	3 days	26 weeks (then invalidity pension)	None		
GREECE.....(1922)	X		40%						
HUNGARY.....(1891)	X		50%	None	3 days	52 weeks			
ITALY ³.....(1925)	X		50%	18 weeks	1 day	26 weeks		* Remarks apply to only one of several schemes.	
JAPAN.....(1922)	X		60%		3 days		None		
LATVIA.....(1922)	X		60-90%		3 days	26 weeks	X		
LITHUANIA.....(1925)	X		50-100%	None	3 days	26 weeks	X		
LUXEMBURG.....(1901)	X		50%	1 week	3 days	52 weeks			
NETHERLANDS....(1925)	X		80%	None	2 days	26 weeks			
NEW ZEALAND....(1938)	X	20s. per week		None	7 days	None	15s. for wife 10s. for each dependent child		
NORWAY.....(1909)	X		60%		3 days	26 weeks	X		
PERU.....(1936)	X								
POLAND.....(1920)	X		60%		2 days	39 weeks			
PORTUGAL.....(1919)	?								
RUMANIA.....(1912)	X		50%		7 days ⁴	26 weeks	None	* 1st week covered by employer.	
SWITZERLAND....(1911)	X		X		None	None			
U.S.S.R.....(1922)	X		66-2/3%		3 days	26 weeks			
YUGOSLAVIA.....(1922)	X								

TABLE 5.
CASH BENEFITS
(2)

COUNTRY Est.	MATERNITY					
	Included in Scheme	Amount		Qualifying Period		
		Flat Rate	Percentage of Wages			
AUSTRIA.....(1888)	X					
BULGARIA.....(1918)	X			16 weeks	6 and 6 12 weeks ¹	
CHILE.....(1924)	X		50%		2 and 2 4 weeks	
CZECHOSLOVAKIA.....(1919)	X		66-2/3%		6 and 6 12 weeks	
DENMARK.....(1933)	X		Cannot exceed 80%	40 weeks	2 weeks	
EIRE.....(1911)	X			42 weeks		
ESTHONIA.....(1917)	X		50%	12 weeks	2 and 4 6 weeks	
FRANCE.....(1930)	X		Same as sick- ness benefit		6 and 6 12 weeks	
GERMANY.....(1883)	X	Lump sum of 10 R.M.	75%		6 and 6 12 weeks	
GREAT BRITAIN.....(1911)	X			42 weeks		
GREECE.....(1922)	?					
HUNGARY.....(1891)	X		50%		6 and 6 12 weeks	
ITALY ².....(1925)	X	Lump sum of 300 lire	50—100%		4 and 4 8 weeks	
JAPAN.....(1922)	X	Lump sum of 20 yen	60%	26 weeks	4 and 6 10 weeks	
LATVIA.....(1922)	X		100%	12 weeks	4 and 8 12 weeks	
LITHUANIA.....(1925)	?					
LUXEMBURG.....(1901)	X		50%	26 weeks	6 and 6 12 weeks	
NETHERLANDS.....(1925)	X		100%		26 weeks	
NEW ZEALAND.....(1938)	No					
NORWAY.....(1909)	X		60%	40 weeks	2 and 6 8 weeks	
PERU.....(1936)	?					
POLAND.....(1920)	X		100%	16 weeks	2 and 6 8 weeks	
PORTUGAL.....(1919)	?					
RUMANIA.....(1912)	X		50%	26 weeks	6 and 6 12 weeks	
SWITZERLAND.....(1911)	?					
U.S.S.R.....(1922)	X		Same as sick- ness benefit		8 and 8 16 weeks	
YUGOSLAVIA.....(1922)	X		75%	40 weeks	6 and 6 12 weeks	

¹ First two figures refer to period before and period after confinement.

² Remarks apply to only one of several schemes.

TABLE 6.
CASH BENEFITS
(3)

COUNTRY Est.	NURSING				FUNERAL				
	Included in Scheme	Amount		Time Limit	Included in Scheme	Amount			
		Flat Rate	Percentage of Wages			Flat Rate	Percentage of Wages		
AUSTRIA.....(1888)	X				X				
BULGARIA.....(1918)					X		50 times basic daily wage		
CHILE.....(1924)	X		25%	32 weeks	X	300 pesos			
CZECHOSLOVAKIA..(1919)	X		33-1/3%	12 weeks	X		30 times daily wage		
DENMARK.....(1933)					X				
EIRE.....(1911)					?				
ESTHONIA.....(1917)					X				
FRANCE.....(1930)	X	175 fr. month		16 weeks	X				
GERMANY.....(1883)					X		20-40 times basic daily wage		
GREAT BRITAIN....(1911)					No				
GREECE.....(1922)					X				
HUNGARY.....(1891)	X	.60 pengo per day		12 weeks	X				
ITALY ¹.....(1925)					X			¹ Remarks apply to only one of several schemes.	
JAPAN.....(1922)					X		30 times daily wage		
LATVIA.....(1922)					X		30-50 times daily wage		
LITHUANIA.....(1925)					X				
LUXEMBURG.....(1901)	X		12-1/2%	12 weeks	X		1/15 of annual earnings		
NETHERLANDS....(1925)					?				
NEW ZEALAND....(1938)	No				?				
NORWAY.....(1909)					X	75 kr.			
PERU.....(1936)					?				
POLAND.....(1920)	X			12 weeks	X		3 times weekly basic wage		
PORTUGAL.....(1919)	?				?				
RUMANIA.....(1912)	X			6 weeks	X		2,000 to 5,000 lei		
SWITZERLAND.....(1911)	X				X			² There is also a layette allowance.	
U.S.S.R.....(1922)	X ²	45 rubles			X	40 rubles			
YUGOSLAVIA.....(1922)	X ³	4 dinars per day		12 weeks	?			³ There is also a layette allowance.	

is a general system of family allowances, a sick person continues to receive the allowance, at least for a limited period, unless the benefit itself is adjusted. A number of laws, however, permit sickness funds to grant dependents' allowances as an additional benefit. In Great Britain and New Zealand the benefit does not vary with wages: in the former country there are three rates: for men, single women and married women respectively, and in the latter country there is a single basic rate supplemented by dependents' allowances.

Though the proportion of wages paid as sickness benefit has remained fairly constant, the duration of the benefit has tended to increase. In Germany until 1904 the maximum duration of the statutory benefit was 13 weeks, but in that year it was extended to 26 weeks; in 1941 sickness funds have been authorized to continue payment of benefit as long as there appears to be a reasonable prospect of restoration of earning capacity in any occupation that the person concerned could take up. While 26 weeks is perhaps still the normal maximum period in the majority of countries, we may note that Czechoslovakia in 1924 and Hungary in 1927 had fixed their maximum at 39 weeks or authorized the extension from 26 to 52 weeks in the case of tuberculosis, or other diseases requiring very long treatment.

It is indeed probable that, in most countries where the maximum has been extended beyond 26 weeks, the motive has been the desire to secure the recovery of a larger proportion of tuberculosis cases. Chile is the first and still the only country to carry this policy to its logical conclusion. The Preventive Medicine Act of 1938 provides for a sickness benefit of unlimited duration for curable cases of tuberculosis, cardio-vascular diseases and syphilis. The benefit, if abstention from work is indicated, is granted as soon as the disease is diagnosed, without waiting for actual incapacity to set in; it is equal in such cases to the full wage, and the patient in consequence is not anxious about the maintenance of his family.

Maternity cash benefit is provided for insured women by all health insurance schemes. Its rate is the same as that of sickness benefit. Its duration is determined mainly by the legal provisions requiring or authorizing women to abstain from work for certain periods before and after childbirth. Between 1883 and 1911 the total duration of the benefit in Germany was gradually extended from 3 to 8 weeks. After the First World War the consensus of international opinion, expressed in the Childbirth Convention of 1919, prescribed a total duration of 12 weeks of absence from work—6 before and 6 after

confinement—and this standard has been adopted in practically all health insurance schemes established since (8 weeks before and after in the Soviet Union). Numerous schemes pay to the mother a small benefit usually equal to one-half the maternity benefit, during the first few months of lactation. In Great Britain the maternity benefit is not a periodical payment but a lump sum, equal to about five weeks' sickness benefit for insured wives and to half that amount for wives of insured men; obstetrical assistance is not an insurance benefit.

Benefits in Kind

(See Table 7)

A constant tendency operating over the last 30 years, in voluntary as well as compulsory insurance, is for an increasing share of the resources of sickness funds to be devoted to the medical service; the proportion of benefit expenditure represented by medical care has risen from 50 to 60 and in some countries even to 80 per cent. The rising cost of medical benefit is due partly to the fact that health insurance funds make available to their clients the powers of advancing medical science, whose methods of diagnosis and treatment grow ever more elaborate; but it is due mainly to the extension of medical care to the wives and children of insured persons.

The development of health insurance policy has indeed consisted in the transfer of emphasis from cash benefits to medical benefits; in other words, from compensation to restoration and prevention. Originally, medical benefit meant hardly more than a simple consultation with a general practitioner and the supply of a bottle of medicine, and it was available to the insured person only. Medical benefit has remained a general practitioner service in Great Britain, but nowhere else. Before the present war, the medical benefits of compulsory health insurance had come to include: free advice and treatment by a general practitioner, and, on the latter's prescription, the supply of drugs and the less expensive appliances, treatment by specialists, physical treatment, and hospitalization. The simpler forms of dental treatment (extractions, stoppings) are also provided, as a rule. Sickness funds are empowered, in the exercise of their autonomy, to supplement their statutory service by additional benefits, such as convalescent care, longer periods of treatment, artificial limbs, dentures, etc.

Furthermore, the majority of European schemes, in the interval between the World Wars, extended their medical benefit to the wife and dependent children of the insured person. From being merely of an optional or additional nature, these family

TABLE 7:
BENEFITS IN KIND

COUNTRY	TYPES OF BENEFITS									Qualifying Period	Time Limit	Provided for Dependents as well as Insured		
	General Practitioner Treatment	Surgical Treatment	Specialist Treatment	Maternity Care	Insured only	Insured and Dependents	Hospital	Medical Appliances	Pharmaceutical	Dental	Special Preventive Benefits			
AUSTRIA.....	X						X					30 weeks	52 weeks	Optional
BULGARIA.....	X		X	X			X		X			8 weeks	38 weeks	
CHILE.....	X		X		X	X			X	X	X	None	52 weeks	Optional
CZECHOSLOVAKIA.....	X				X			X	X			None	None	X
DENMARK.....	X	X					X	X	X	X		6 weeks	26 weeks	X
EIRE ¹														
ESTHONIA.....	X			X			X	X	X			None	26 weeks	Optional
FRANCE.....	X ²		X ²				X ²		X ²				26 weeks	X
GERMANY.....	X	X			X	X	X	X	X	X			26 weeks or more	X
GREAT BRITAIN.....	X	None	None			None			X			None	None	No
GREECE.....	X													
HUNGARY.....	X			X			X	X	X			None	52 weeks	X
ITALY ³	X		X	X					X			None		
JAPAN.....	X						X	X	X	X			26 weeks	No
LATVIA.....	X			X			X		X				26 weeks	Optional
LITHUANIA.....	X						X		X				26 weeks	For 13 weeks
LUXEMBURG.....	X				X	X	X	X	X	X	X	None	26 weeks	
NETHERLANDS ⁴				X										
NEW ZEALAND.....	X			X ⁵			X		X				None	
NORWAY.....	X				X	X				X			26 weeks	X
PERU.....	X	X					X		X					
POLAND.....	X				X	X	X	X				None	39 weeks	
PORTUGAL ⁶														
RUMANIA.....	X		X	X				X	X			None	None	X
SWITZERLAND ⁷														
U.S.S.R.....	X	X	X		X	X	X	X	X	X	X	None	None	X
YUGOSLAVIA.....	X				X	X	X	X					26 weeks	X

¹ None until 1942 Amendment whose provisions are not yet definite.² 80% reimbursement.³ These are benefits in kind for industrial workers.⁴ Provision only for cash benefits but insured must belong to a voluntary sickness fund granting benefits in kind.⁵ Everyone is insured.⁶ Benefits vary according to the fund insured with.⁷ Large number of schemes with varying benefits.

benefits became statutory and universal. They are, however, as a rule, not so ample in kind or duration as those accorded to the insured person himself.

Obstetrical assistance, provided in the first instance for insured women only, represents the first excursion of health insurance into preventive treatment, since it has come to include ante-natal care, and medical supervision of the mother and the newborn infant, as well as attendance at the confinement. Moreover, it was in the form of obstetrical assistance for the insured man's wife that health insurance took the first step in providing for the medical needs of the family.

The principal aim of compulsory health insurance is now understood to be the improvement of the standard of health of workers and their families, thereby reducing its future liabilities. The main function of the doctor should, therefore, be gradually transformed from that of a healer of acute disease into that of a family medical adviser, vigilant in the prevention of disease and training his patients in their responsibility for preserving their health.

The importance of periodical medical examinations for the detection of serious diseases in their early stages has been recognized for a number of years. Considerations of cost, however, have hindered the realization of this preventive measure in compulsory health insurance. Chile was the first country to set about the huge task of examining its insured population. Sample examinations of the entire staff of factories, here and there, had shown that tuberculosis, heart affections and venereal diseases in a curable stage were present in a substantial proportion of the employed population who were continuing their work unaware of their conditions. This discovery led to the enactment of the Preventive Medicine Act 1938, the object of which was to organize medical examinations for the insured population and to provide for the treatment and maintenance of persons suffering from social diseases in their curable stage. Simple and rapid methods of diagnosis, capable of being applied cheaply on a large scale, were selected (in particular, micro-radiography, a method invented by the Brazilian, Dr. Abreu) and, using these, the Chilean health insurance fund is now examining about 250,000 persons a year, or nearly one-fifth of its membership. About 20 per cent. of those examined have been found to be suffering from one or other of the above mentioned maladies in a curable stage. In Germany, where it is pension insurance rather than health insurance which takes care of tuberculosis, an instruction was issued just before the present war by the National Insurance Office, laying down guiding principles for the detection of and treatment of

tuberculosis; the instruction advised pension insurance institutions to carry out a radiographic examination of the entire insured population of selected municipalities.

The duration of medical benefit is, as a rule, the same as that of sickness benefit, e.g., 26 weeks for any single illness. But since incapacity may not set in until some time after the beginning of the treatment, it is provided that medical care should continue until the right to cash benefit is exhausted.

In several countries a longer maximum period is provided for in order that treatment of such protracted diseases as tuberculosis may not be interrupted. Only in Great Britain, however, is medical care—of a simple character it is true—continued without any limit of time, for the chronically invalid as for those still acutely ill. Germany, by a very recent measure, has removed the limit on the duration of medical benefit, and the patient who does not leave the field of insurable employment permanently, as an invalid or otherwise, is always entitled to treatment.

Recent changes and trends in the benefit provisions of social insurance, in all four branches, are characterized, not by novelty, but by the pursuit of older purposes with increased vigour. They spring from a deeper and more widespread understanding of the potentialities of social insurance as a means of raising, surely and continuously, the average level of the well-being and efficiency of the mass of the population.

Social insurance weaves more closely the mesh of its protection against lapse into destitution. It has long been usual to maintain the insurance rights of persons unable to contribute through sickness. Similar privileges have been awarded to the unemployed where severe and prolonged unemployment would have led to massive loss of rights, and when the employment exchanges, necessary to certify the worker's predicament, had been established. Thus, in the more highly developed systems, the unemployed have been able to claim the benefits of health insurance and the sick to retain their status with the unemployment fund in case of inability to find work on their recovery.

Another important trend in benefit policy is the tendency to attach greater weight to the presumed need of the case in determining the scale of benefit, and less to juridical considerations or those of actuarial equity. The needs of wageless individuals are to be measured, not so much by the rates of their previous wages as by the number of their dependents. Social insurance has understood that it must concern itself with the family rather than the individual if its resources are to be used to the greatest advantage for

society. Accordingly, dependents' allowances are being introduced in an increasing number of countries.

It is, however, in the field of medical care that social insurance has made the most extensive contribution to family welfare. In continental Europe, before the present war, most health insurance schemes were providing medical benefit as a matter of course for the wife and children of the insured person, and so bringing the great majority of the

population within a system of organized medical care; a small but increasing number of countries even extend the privilege of medical benefit to pensioners. Growing importance is being attached to the preventive aspects of medical care, especially by affording continuous supervision to expectant and nursing mothers and to infants. In this connection the far-reaching plan of the Chilean insurance fund to combat social diseases by periodical medical examinations opens a new phase in the development of the health policy of social insurance.

PART IV

PUBLIC HEALTH AGENCIES IN CANADA

CHAPTER I

Historical Survey

Although public health in some form or other has been in existence since the earliest days of the country, it is only of comparatively recent years that departments of health, as we know them, have come into existence. Prior to the establishment of departments of health, public health consisted, in the main, of the enforcement of legislation created for the purpose of controlling the spread of epidemic diseases. Few of the provinces treated the problem in a constructive way.

Up to the time of Confederation, public health was administered chiefly by temporary boards of health which had been created to deal with epidemics. In the year 1847, when typhus was making such inroads, over 75 such boards were organized throughout the country. In 1849, there was established a Central Board of Health, which was resurrected at the time of a recurrence of epidemics. Confederation was followed by rapid growth and development in the several provinces and each paid some attention to public health matters.

Synchronously with Confederation came the Canadian Medical Association and one of its first acts was to indicate the necessity for the establishment of sanitary laws.

In the year 1882 an Act creating a Provincial Department of Health was passed in Ontario. Following a great epidemic of smallpox in 1885, the province of Quebec passed a Public Health Act, modelled upon the Ontario Act, and in 1891 Manitoba passed a Health Act. The provinces of British Columbia, Alberta and Saskatchewan adopted legislation along similar lines. Slowly there evolved the Department of Public Health or permanent Board of Public Health. In each of the provinces there is today a Department or permanent Board of Health, and, in addition there is the National Health Branch of the Department of Pensions and National Health.

Jurisdiction in regard to public health, dominion and provincial, is based upon the British North America Act, and all health activities must of necessity be conducted within the limitations of the statutory jurisdiction laid down by that Act. When the British North America Act was passed in 1867 knowledge of preventive medicine was meagre, for only ten years had elapsed since Pasteur laid the foundation of the present science of bacteriology which has opened the way for the prevention of

many diseases. One can understand, therefore, that reference to health in the British North America Act would be restricted within narrow confines.

To the Dominion Government was assigned a jurisdiction over "quarantine and the establishment and maintenance of marine hospitals," and to the provinces "the establishment, maintenance and management of hospitals, asylums, charities and eleemosynary institutions in and for the province, other than marine hospitals." Assuming that other phases of health, as then understood, were provided for by delegating to the provinces jurisdiction over property and civil rights and "all matters of a merely local or private nature," one might agree that in view of the limited conception of public health then prevailing, a satisfactory division of responsibility had been made.

But the health problems of today are not the same as those of 1867, for though the nature of disease may not change, social evolution materially changes the propagation and dissemination of disease. A growing population provides more material for an epidemic. Increasing congestion favours more rapid spread, and increasing speed of physical communication provides a proportionately rapid transmission from town to town and from province to province. The speed of travel of an epidemic is directly proportionate to the speed of human travel. The growing interdependence of provinces and nations for food supplies and other needs is another factor in the problem of disease control, as is the change of dietary habits and the changing tempo of society. Today, disease is not a matter of a purely local and private nature.

From the time of Confederation until the year 1872 Dominion health activities were under the control of the Department of Agriculture. Later the administration was divided among the Departments of Marine and Fisheries, Agriculture and Inland Revenue. The control of tuberculosis was a joint responsibility of the Department of Finance and the Conservation Commission. Operating under the Conservation Commission was the National Council on Health which advised the federal and provincial governments on matters relating to public health.

Realizing the deficiency in national health services, the Canadian Medical Association passed resolutions and memorialized the government directly and in-

directly for the creation of a Department of Health. Each year a motion was introduced into the House of Commons "for a select standing committee on the subject of vital statistics and public health". From year to year petitions were presented to the government by public organizations, but it was not until

1919 that the Federal Department of Health came into existence by an Act of Parliament.

In 1928 the Federal Department of Health was merged with the Department of Soldiers' Civil Re-Establishment to create the present Department of Pensions and National Health.

CHAPTER II

Federal Department of Health

The activities of the National Health Branch of the Department of Pensions and National Health are two-fold in character—international and national.

Section 9, Part II, of an Act respecting the Department of Pensions and National Health reads as follows:

9. The duties and powers of the Minister under this Part shall extend to and include all matters and questions relating to the promotion or preservation of the health of the people of Canada over which the Parliament of Canada has jurisdiction, and, without restricting the generality of the foregoing, particularly the following matters and subjects:—

- (a) Cooperation with the provincial, territorial, and other health authorities with a view to the coordination of the efforts proposed or made for preserving and improving the public health, the conservation of child life and the promotion of child welfare.

Other sections of the Act deal with the establishment of a national laboratory for public health and research work; inspection and medical care of immigrants and seamen; the administration of marine hospitals; the supervision of railways, boats and other means of transportation; the supervision of federal public buildings with the object of promoting the health of civil servants; the enforcement of rules or regulations made by the International Joint Commission; the administration of certain Acts mentioned in the schedule to the Act, such as:—

The Food and Drugs Act
The Opium and Narcotic Drug Act
The Quarantine Act
The Public Works Health Act
The Leprosy Act
The Proprietary or Patent Medicine Act

and such other matters relating to health as may be referred to the Department by the Governor in Council.

In addition, the Act established the Dominion Council of Health, which comprises the chief executive officer of the provincial Department or Board of Health of each province, and such other persons, not

to exceed five in number, as may be appointed by the Governor in Council, for a period of three years, and with the Deputy Minister of the Federal Department of Health as chairman.

International Activities

In the international field, as signatory to the International Convention of Paris, which deals with quarantine regulations and procedures, the Health Branch implements the provisions of the Convention which apply to all signatory countries. Membership was early obtained in the "Office International d'Hygiène publique," which meets semi-annually at Paris (or which did until the outbreak of war) and whose object is to collect and disseminate information in regard to infectious diseases. In addition, the Health Branch enjoys membership in associations such as the International Union against cancer and that against venereal diseases, participating as well in the International Agreement of Brussels to provide treatment for seamen suffering from venereal diseases.

Through the Laboratory of Hygiene the responsibility of acting as custodian and distributing centre of biological and vitamin standards for the League of Nations is assumed. A representative of the Health Branch is a member of the Opium Advisory Committee of the League and keeps that body informed regarding the activities carried out for the control of the importation, manufacture and sale of narcotics in Canada. There is an agreement with the United States Public Health Service concerning the exportation to that country of shellfish and the supervision of water supplies on vessels plying the Great Lakes and on common carriers in international service. Under the International Joint Commission both countries investigate the pollution of boundary waters and take such action as the Commission may recommend in regard thereto.

Although the Health Branch of the Department, apart from the Opium Advisory Committee, has no representation on the Health Section of the League of Nations, the recommendations of that body that have some bearing on the health of the people of Canada are implemented, as was done a few years ago in the establishment of a National Council on Nutrition.

National Activities

The national responsibilities of the Department include the administration of the Food and Drugs Act and the Regulations thereunder, which set up standards for foods and drugs. Included in these responsibilities is the control of proprietary or patent medicines which are manufactured and marketed both under the Food and Drugs Act and under the Proprietary or Patent Medicine Act.

The medical officers of the Health Branch stationed in Canada, and until the outbreak of war in Europe, act as medical advisers for the Department of Immigration with the object of prohibiting the entry of defective immigrants. All vessels entering Canada are subject to quarantine control in order to prevent the entrance of infectious diseases into the country, and provision is made at the various ports in Canada for the treatment of sick mariners.

These national activities also include assistance given the provinces either by way of grants, personnel or cooperation in carrying out special studies in public health fields which are primarily provincial in character and yet have Dominion repercussion. For example, the Health Branch has cooperated in recent years with the provinces of British Columbia and Alberta in an investigation into Rocky Mountain spotted fever and sylvatic plague, with the province of Nova Scotia in regard to mussel poisoning and with the province of Manitoba in conducting a maternal survey.

Besides the semi-annual meetings of the Dominion Council of Health, the provincial Ministers of Health meet from time to time with the federal Minister of Health to consider common public health problems. The cooperation that has been obtained through the meetings of the Ministers of Health and the members of the Dominion Council of Health is invaluable.

National health activities are carried on through the following Divisions:

- Quarantine, Immigration Medical and Sick Mariners' Services
- Food and Drugs
- Narcotic Drugs
- Proprietary or Patent Medicine
- Laboratory of Hygiene
- Public Health Engineering
- Medical Investigation
- Child and Maternal Hygiene
- Industrial Hygiene
- Publicity and Health Education
- Nutrition Services

Quarantine and Immigration Division

The duties of this Division have already been mentioned.

Food and Drugs Division

This Division works under the Food and Drugs Act of 1920. At the present time, although still not perfect, the Canadian legislation in food and drugs is in advance of almost every other country in the world. Indeed there is reason to believe that authorities elsewhere will be guided, in the drafting of new laws, by the principles laid down in Canada. The Division administers a central laboratory at Ottawa and branch laboratories in important centres throughout the Dominion, such as Halifax, Montreal, Toronto, Winnipeg, and Vancouver. A full-time inspection service exercises local supervision over the sale of food and drugs in strategic points across the country.

While the old problems of adulteration, etc., still remain, new ones have grown up, centering around the prepared or proprietary medicine. The review of labels, circulars, newspaper advertising and radio broadcasts form a part of the daily routine in a sincere effort to protect the ailing public from exploitation. It is now a common practice to submit label and advertising copy to the Department for opinion before going ahead with printing.

Narcotic Drugs Division

This Division supervises the importation, manufacture and sale of narcotic drugs in Canada. Its work is divided into two distinct spheres; the supervision of the legal trade in narcotics and the control of the illicit traffic.

When narcotics arrive at their point of destination in Canada and are passed by the Customs, they are escorted by the Royal Canadian Mounted Police to the vault of the wholesaler. From the wholesaler the physicians and retail druggists obtain their supplies. All sales by the licensed narcotic wholesalers in Canada are reported monthly to the Narcotic Division, while a government auditor, who is also a chemist, devotes his whole time to auditing the stocks and transactions of such wholesalers. Sales reports are also received from retail druggists. There is in the Division a staff which is solely engaged in entering upon personal cards, which are kept for each physician, veterinary surgeon, dentist and retail druggist in Canada, all narcotics sold to them.

In relation to the illicit traffic, Canada benefits greatly from being represented on the Opium Advisory Committee at Geneva, where seizure reports

on the hundreds of cases encountered throughout the world are studied and action taken to coordinate the activities of countries in combating the movements of illicit drugs.

It is safe to say that Canada has narcotic legislation which is at least equal to the best in the world, that it is being effectively enforced, and that the last ten years have seen a very marked improvement in the control of both legitimate and illicit narcotics.

Proprietary or Patent Medicine Division

The Canadian public spends millions annually for prepared medicines of domestic and foreign manufacture of which over 5,000 are sold in Canada subject to the Proprietary or Patent Medicine Act. This Act provides for the registration of all secret formula and non-pharmacopoeial medicinal preparations for the internal or external use of man manufactured or imported into and sold in Canada.

Advertising has always played a big part in the sale of medicines, and a strict censorship is maintained over all these advertisements. It has been the practice of the Division to assist manufacturers in preparing labels, wrappers, advertising copy and radio announcements so as to avoid exaggeration and misrepresentation.

A general survey of registered articles is periodically made and analytical work done on samples collected with the object of ascertaining whether or not excessive quantities of potent drugs or alcohol are used, and if the general composition and labelling of such medicines conform to the terms of registration.

Laboratory of Hygiene

The Laboratory of Hygiene is concerned with the administration of Part II of the Food and Drugs Act which controls the importation, manufacture and sale of biological preparations and certain potent drugs. There is also a national laboratory for public health and research work. Its course of development has been two-fold, embracing on the one hand studies of public health problems most appropriately dealt with by a central authority, and on the other the specific duty of controlling those products mentioned in Schedule "B" of the Food and Drugs Act of 1927.

The public health studies vary from the cooperative laboratory and field survey such as was conducted in British Columbia and Alberta to the strictly laboratory task of preparing type sera for haemolytic streptococci, with a view to determining the incidence of the various types in Canada.

The laboratory has a bacteriological and pharmaceutical branch, the latter being concerned primarily with the development of standards for certain drugs and hormones as well as vitamin and other products which are widely used and of established therapeutic value. For control of products on the Canadian market, the inspectors of food and drugs collect samples from the manufacturers or from drug stores throughout the country and also from imported shipments. These samples are sent to Ottawa for tests and examination of the labelling. Unsatisfactory materials are removed from the market or refused sale or entry into the country.

The laboratory has also undertaken investigation on nutritional problems other than the routine control of vitamin products.

Public Health Engineering Division

The Public Health Engineering Division carries on investigations into water supplies on common carriers engaged in international and interprovincial trade and such duties as are directed to be performed by the International Joint Commission in respect to the pollution of boundary waters. Sanitary surveys are made of shellfish areas for the purpose of international and interprovincial trade. The supervision of drinking water and ice supplies intended to be used aboard common carriers is a duty of this Division. In so far as passenger trains are concerned, it is carried on in conjunction with the supervision of dining car sanitation which includes conditions in the kitchens and places where food is stored and prepared. Also a check is maintained with regard to sanitation in passenger train terminals and railway coach yards.

To efficiently accomplish the work of this Division, a headquarters is maintained in Ottawa and the Dominion is divided into five public health engineering districts, with their centres at Saint John, Montreal, St. Catharines, Winnipeg and Vancouver.

The administration of the Public Works Health Act and the regulations thereunder for the preservation of health and the mitigation of disease among persons employed during the construction of federal public works and the supervision in regard to sanitation of mining settlements and trading point areas in the Northwest Territories require considerable time and effort. Considerable assistance is given to those provincial Departments of Health that are not provided with their own public health engineering staffs, and matters of international public health engineering affecting mutual interests in Canada and

the United States are handled in conjunction with the United States Public Health Service.

Medical Investigation Division

This Division consists of two branches, one devoting its energies to the supervision of illness in the Civil Service of Canada and the other carrying out medical studies on various subjects in order to provide the Department, and in some cases the medical profession, with necessary or new information not otherwise available.

The supervision of illness in the Civil Service goes back many years to the time when officials of the Health Department were asked for an opinion as to what action might be taken on certain problem cases, both mental and physical, occurring in various departments of the government. The Division scrutinizes and advises on all medical certificates submitted for illness in respect to the conditions suffered and the length of sick leave warranted for such conditions. It also investigates long-term illnesses and advises the departments concerned as to the probability of the individual again being able to carry out the duties of his position.

Division of Child and Maternal Hygiene

The work of this Division comprises the study of problems associated with maternal and infant welfare and mortality, such as prenatal, intranatal and postnatal care; hospitalization of expectant mothers; the character and distribution of medical and nursing services; the feeding and care of infants and pre-school children; crippled children, and those needing special care; welfare work for children not in their own homes, and of illegitimate children; early immunization against contagious and infectious diseases; care of Indian and Eskimo children; juvenile delinquency; child labour; medical inspection of schools, and mental health of children. The objective of reducing child and maternal morbidity and mortality is to be attained through cooperation with all official and voluntary agencies, through education by means of lectures to lay persons and to the medical and nursing professions, the compilation and distribution of literature, and the provision of guidance to all those engaged in this work.

With a view to an intensive study of maternal welfare, the province of Manitoba, in cooperation with the Division and the Rockefeller Foundation, carried out a maternal survey of several thousand cases in Manitoba beginning in 1939. Every maternity case occurring during the period was reported

and a great mass of valuable data was secured which has enabled the Division to uncover definite causes for the toll of life taken in childbirth and to evolve plans for remedial measures.

To aid the Division in the formulation of suitable policies, Scientific Advisory Committees on Maternal Welfare and Child Hygiene meet from time to time in Ottawa.

Industrial Hygiene Division

This Division was created for the purpose of developing interest in the health and welfare of industrial workers, and to carry on research and give leadership in this field. The war has imposed additional duties and responsibilities which are being carried out successfully. The importance of occupational-disease control in this age when science is continually providing for industry new materials and processes involving at least potential health hazards for the worker is not to be underestimated.

The Division has endeavored to supply consultant and research services to provincial departments or industries on specific problems; to supply expert personnel to assist provincial departments in carrying out preliminary or fact-finding surveys to determine the extent of their respective problems prior to formulating plans for effective action, and to safeguard the health of workers in war industries through insuring the observance of several Orders in Council.

Publicity and Health Education Service

As the name implies, this Service advises the public in regard to public health by means of radio, literature, posters and such other means as may from time to time be considered advisable. Besides attempting to educate the general public on the subject of health preservation, it also endeavors to bring before the public, by means of press releases, the health activities of the Department.

It has distributed hundreds of thousands of copies of the booklets comprising the National Health Series and has secured the whole-hearted cooperation of the radio broadcasting stations of Canada, including the entire C.B.C. chain, for the purpose of broadcasting daily short National Health Notes which relate some health fact in a brief manner and conclude by inviting the listener to write the Department for health literature.

The Service has also handled the editing of the *National Health Review*, the Department's quarterly publication, now suspended for the duration, and

conducts a clipping service for the benefit of departmental officials.

Nutrition Services

This is the most recent of the divisions to be established in the Department. It was created in November 1941 in an effort to help maintain and improve the nutrition of the Canadian people, particularly its war workers.

It inspects and confers with those maintaining cafeterias, etc., in industrial plants, with a view to improving the nutrition of the workers. It assists

the public generally to maintain and improve nutrition in Canadian homes by advising as to suitable purchases of food and methods of preparation. It has made available expert opinion and information on nutrition for war information bodies and the press.

It has conducted investigations and research into dietary and nutrition problems and, as a result, has compiled dietary standards for Canadians and is at present conducting a national nutrition campaign. The groundwork for the campaign was laid through the establishment of nutrition committees in all provinces and in many of the large cities and towns throughout the country.

CHAPTER III

Provincial Departments of Health

Provincial health activities are conducted by Departments or Boards of Health. Five provinces, Alberta, Saskatchewan, Ontario, Quebec and Nova Scotia, have separate Departments of Health or Public Health. In British Columbia the work is carried out under the Provincial Secretary, in Manitoba through the Department of Health and Labour, and in Prince Edward Island through the Department of Education and Public Health. Most of the provinces have a Provincial Board of Health, or an equivalent, to act in an advisory capacity, but in British Columbia and Alberta it has a more positive role with executive and administrative boards. All provincial departments have supervision over municipal health organizations.

The activities of the Provincial Departments of Health are conducted in the main through the following divisions:—

1. Vital statistics
2. Communicable diseases

3. Sanitation.
4. Maternal, infant and pre-school hygiene
5. Mental hygiene
6. Dental hygiene
7. Hospitalization
8. Public health education
9. Laboratory
10. Nutrition
11. Health units
12. Health districts
13. Tuberculosis
14. Venereal diseases
15. Cancer
16. Industrial hygiene
17. Public health nursing

No two public health departments have an identical organization, but most of them are engaged in the above activities either through distinct divisions or a combination of divisions.

CHAPTER IV

National Voluntary Health Agencies

Canadian Tuberculosis Association

This voluntary Association was organized in 1900 to stimulate interest in the control of tuberculosis in Canada. The work of the Association is directed by an executive council consisting of tuberculosis executives from each of the provinces, together with other public officials and interested laymen. It has been the only coordinating agency for tuberculosis work in Canada collecting information on various phases of the problem and making it available to the workers in the provinces. Committees of this Association have worked to obtain standardization of methods and procedure. The Association, at the request of the Department of Mines and Resources, assembled an advisory committee to consider the problem of tuberculosis amongst the Indians.

Educational work is carried on by means of public addresses, radio talks, movies, posters and the press and by the preparation and distribution of educational literature. Being affiliated with the International Union Against Tuberculosis, it is entitled to the privileges of that organization, including reports on tuberculosis in other countries, and participation in scholarships for postgraduate instruction. The Canadian Association conducts the Christmas Seal Campaign in Canada, providing material and arranging for national publicity. Ten percent of the funds so collected goes to the national office. The remaining ninety percent is spent in the provinces where it is subscribed.

In ten years the Canadian Life Insurance Officers Association has contributed \$100,000 through the Canadian Tuberculosis Association for special demonstrations in the control of tuberculosis in the maritime provinces and, in 1935-36, \$12,000 for demonstration purposes in Prince Edward Island.

St. John Ambulance Association

The function of the Canadian Branch of this organization is public education in first-aid to the sick and injured, home nursing, home and personal hygiene and sanitation.

Canadian Public Health Association

This Association consists mainly of professional people engaged in public health work as executives

or teachers and provides an invaluable service on the theory and practice of public health through its monthly journal. Through its committees, problems of administration, policy and science are advanced or solved.

Canadian Dental Hygiene Council

This is a lay voluntary health organization working in cooperation with other public health organizations in Canada and having as its object the stimulation of interest in public dental health, the bringing about of cooperative effort among departments of health, the dental profession and the health and welfare organizations in Canada, and the education of the public in the close relationship between oral hygiene and general health.

Its activities include the promotion of measures to prevent or reduce the incidence of dental diseases, a public educational campaign concerning the teeth and their care, oral hygiene and the relation between dental hygiene and systemic disorders, by means of lectures, demonstrations, exhibits, bulletins, the press and all other proper channels.

Victorian Order of Nurses

The objects of this organization are to provide nurses, especially trained in hospital and district nursing, for nursing the sick who, for financial or other reasons, are unable to obtain trained nurses in their own homes; to encourage affiliation of existing district nursing associations and to give needed financial or other assistance to such associations; to assist in developing and maintaining a high standard of efficiency in district nursing; and to assist in providing small cottage hospitals or homes.

Canadian Red Cross Society

This is a voluntary organization whose purpose is the improvement of health, the mitigation of suffering and the prevention of disease. Its activities include assistance in providing care for crippled and handicapped children, establishment of outpost hospitals, medical and other assistance for ex-soldiers, general relief work, home nursing instruction, education in health habits, visiting housekeeper services, and establishment of highway first-aid posts.

Canadian Welfare Council

The Council conducts a fact-finding, educational and organizing service for the general public, for special groups of individuals and for governmental and voluntary agencies dealing with public welfare.

Its work is carried on in the following fields:—public welfare (general); family welfare; child care and protection; community organization; leisure time service; delinquency; child and maternal hygiene. Services are given in French and English.

Canadian National Institute for the Blind

This organization and other related institutions receive grants to aid them in their work for the blind.

Health League of Canada

The objects of this society are to promote measures necessary for the prevention, reduction and control of venereal diseases, to promote such conditions of living, environment and personal conduct as may best protect the family as a social institution, and

to cooperate with all government agencies to promote and assist in the education of the general public in the control of communicable disease. In general, its object is to promote personal and community health by educational means, utilizing the press, the radio, moving pictures, public lectures, etc.

National Committee for Mental Hygiene (Canada)

The functions of this Committee are to work for the conservation of mental health and for improvement in the care and treatment of those suffering from nervous or mental diseases or mental deficiency, and for the prevention of such disorders; to conduct and supervise surveys of methods and means used in the care of those suffering from mental disease or mental deficiency; to cooperate with other agencies which deal with any phase of this problem; to enlist the aid of the Dominion and provincial governments and to help organize and aid affiliated provincial and local societies or committees for mental hygiene.

PART V

**A STATISTICAL SURVEY OF PUBLIC HEALTH
IN CANADA**

SECTION 1

VITAL STATISTICS

CHAPTER I

Introduction

The Vital Statistics Section of "A Statistical Survey of Public Health in Canada," is based upon the vital statistics of Canada during the fifteen-year period, 1926 to 1940. It is designed to measure statistically the need for further extension of the present national, provincial and local public health services and for the establishment in Canada of some form of health insurance.

The promotion of the physical health, mental efficiency and general welfare of the Canadian people can be accomplished by a well co-ordinated plan for the prevention of disease, for the medical, social and economic care of the sick, and for the prolongation of a normal, healthy, happy life.

An interpretation of the vital statistics of Canada can focus the light of factual knowledge upon the weak spots in our Canadian defence armour of therapeutic and preventive medicine and should suggest some of the immediate steps necessary to bring about a further improvement in the prevention and treatment of disease.

The Committee on the Cost of Medical Care of the United States in its final report¹ brought out, among other important facts, that medical care including nursing and hospitalization, is abundantly supplied to the United States population in the large centres but that such medical care is not always available to the scattered rural population. The Canadian vital statistics clearly show that, as compared with the United States, the general improvement in the health of Canadians over the past fifteen years has been very marked despite the fact that the problem of distribution of medical care as between the rural and urban populations in this country is even more acute, that distances are greater and that transportation facilities are more limited. It will be seen that the trend towards hospitalization in the case of childbirth has increased. The upward trend towards hospitalization in the case of deaths is probably even more remarkable in a country such as Canada. Many fatalities are of the "sudden death" type and many people still die in isolated districts far from the benefits of hospitalization or even adequate medical care.

Vital statistics reflect the health of communities and nations, to quote the common definition—

"They are the bookkeeping of human life." Through the medium of vital statistics the state knows how best to safeguard the health and welfare of the citizens. It is by means of these periodic audits that the health authorities measure and assess the success of preventive controls and general public health practice in relation to human life and welfare of the people within the state.

To quote Fitzgerald², late Dean of Preventive Medicine, Toronto University, one of the world's leading figures in the modern practice of preventive medicine:

"Demography ('demos', people, and 'grapho', I write) is the statistical study of human life. It is essentially the statistical study of vital, human facts. Demography is complementary to hygiene, and if neglected, much that is of practical importance in the development of preventive medicine, public health and hygiene would be impossible. Demography includes the subjects of genealogy, human eugenics, the registration and study of births, marriages and deaths, and their causes (vital statistics), biometrics, etc... .

For the practitioner of preventive medicine, as well as for the public health worker, vital statistics are very important if not essential. In organized public health work they are as necessary as is a bookkeeping system in any commercial undertaking. By means of the census the enumeration of all persons in a given community is undertaken, the important facts in regard to them ascertained, and the population data so obtained provides the basis for any system of records subsequently initiated.

Just as a low incident rate of certain communicable diseases and a low infant mortality rate are indices of the state of civilization of a community, so too are the registration of vital facts, and the elaboration of vital statistics indications of enlightenment and intelligence of the people of any community."

Vital statistics cannot strictly be called a science. However, all sciences in their evolution make prolific use of statistical material. Demography may be called a science—in that it studies the generation, growth, decay and death of the population.

Material for Part V, Section 1, compiled by John T. Marshall, Chief, Vital Statistics Branch, Dominion Bureau of Statistics.

¹ Medical Care for the American People. Final report of the Committee on the Cost of Medical Care.

² Fitzgerald, M. D., J. G. Practice of Preventive Medicine.

The National Vital Statistics of Canada has been complete since 1926. A Registration Area was created in 1920, but one province, Quebec, was unable to adjust its vital statistics system to the principles of the Federal-Provincial agreements during the first five years of operation of the national scheme. The National Vital Statistics of Canada takes into its ambit the statistical analysis of vital facts concerning birth, marriage, death, and to a limited degree—divorce. It fuses into a national picture the morbidity factors regarding all diseases that are reportable under the regulations of the nine provinces.

The reports reveal that adult, infant and maternal mortality rates are excessive; that Canada, like other countries, has a falling birth rate; and that, according to the best estimates obtainable, the sickness toll is excessive—these are deterrent factors in the growth of a large sparsely populated nation, which must be corrected. The reports also reveal the focal points which can be attacked by the provision of adequate medical services to all economic levels in the population and by an even distribution of public health services to all parts of Canada.

A society or state cannot maintain a democratic form of government without a mentally and physically healthy and well-informed electorate, because democracy implies the active interest (through representative legislation) of every individual in the management and general welfare of the state. It naturally follows then that there are reciprocal

duties towards its citizens on the part of the state (one of its main functions is to enable the citizens to realize social welfare on the largest possible scale). One of these duties would appear to be the provision of educational and health facilities of such caliber and in such quantity that each person may be prepared mentally and physically, to perform his duty towards safeguarding the security of that state, the protection of himself, his family and his fellow-citizens.

Public health or preventive medicine has long been recognized as the responsibility of governments. In Canada and in the United States this phase of the nation's medical care programme has rested largely with the Provincial (or State) and Municipal authorities. At the same time it may be claimed that the Federal Governments have acknowledged a certain measure of responsibility in this direction by the adoption of policies of "Grants in Aid" providing financial assistance to the lower levels of government for public health purposes.

This Vital Statistics Section, which is to serve as one of the bases of measurement for the extension of medical care in some form, does not in any way attempt to place upon any one legislative or administrative body the responsibilities for the kind or amount of medical and other services which may be necessary for the prevention and cure of disease. It merely endeavours to measure the promotion of full mental health and physical well-being of the people of Canada as expressed in the "Vital Statistics of Canada" over the past fifteen years.

CHAPTER II

Population

The main objective of a chapter on population is the compilation of an array of demographic data respecting the general population of the nation over the last three or four decades of the nation's history, its geographic distribution and a rough analysis of its main attributes, all of which is to serve as the factual basis upon which any plan for national medical care must be premised.

In summarizing this demographic data, several important facts of primary significance with respect to problems of supply and demand for medical and hospital services seem to emerge from an analysis of this chapter:

(1) That the rate of population growth in Canada over the past twenty years has been decreasing rapidly; from 34.17 per cent in the decade 1911 to 1921 to 18.08 per cent in the decade 1921 to 1931, and to 10.89 per cent in the decade 1931 to 1941;

(2) That the declining rate of population growth in Canada is due to (a) the elimination of immigration for the most part from European countries and (b) the decline in the rate of natural increase;

(3) That in a country the size of Canada, with its wide variations in population density, it will be extremely difficult to set up national uniform standards for an equal distribution of medical, public health and hospital services;

(4) That some form of Regional (or Provincial) administration will be necessary in order to provide adequate medical care for the people of Canada;

(5) That taken upon the basis of the "census definition" of "Urban", by virtue of its proximity to hospital and clinical services, 54.34 per cent of the population of Canada at the Census of 1941 was within easy access of facilities for medical and surgical care and treatment;

(6) That upon the basis of the Census definition of "Rural", it would appear that 45.66 per cent of the population in 1941 was in a less favourable position. It must, however, be remembered that a goodly portion of this rural population may be situated near an incorporated area with good hospital and clinical facilities;

(7) That the ageing of the population of Canada is a problem of major importance, particularly in view of the present conflict when so many men in the very flower of youth, are answering their country's call for sacrifice;

(8) That in the more thickly populated areas of Canada unified public health services might be

established, to serve a number of municipalities, particularly in the fifteen larger "Metropolitan Areas";

(9) That the fifteen larger "Metropolitan Areas" comprised over one-third or precisely 34.2 per cent of the total population of Canada;

(10) That the trend of population in Canada is towards "urbanization".

All vital statistics are based upon the population. All the component parts of statistical analysis of vital happenings in a community must be measured in relation to the results of an enumeration of the population. Census enumeration must provide the factual basis for Intercensal Estimates of Population Growth.

Dr. John W Trask¹, a Surgeon of the United States Public Health Service, clearly indicates the relationship of population in vital statistics as follows:

"DEFINITION—Vital statistics may be defined as statistics relating to the life histories of communities or nations. They pertain to those events which have to do with the origin, continuation, and termination of the lives of the population, births, marriages, deaths, and the occurrence of disease, and the conditions attending these events.

"DEVELOPMENT—Vital statistics are not a thing of recent origin. Their development to their present form, however, is comparatively modern. The Egyptians, Greeks, and Romans made census enumerations. Some of the ancients, notably the Romans, required also the registration of births and deaths. The statistical treatment of the records was, however, comparatively limited until recently.

During the last century and a half, and more particularly the last fifty years, the treatment of vital statistics has been undergoing a rapid evolution. In their present developed form they give a fund of useful information otherwise unobtainable. They have become an essential to every well-organized community and nation. They give a composite picture of the life history of a people which can be secured in no other way. They furnish a means of comparing the life history of one community or people with that of others and of the present with the past".

¹ Rosenau, Milton, J. Preventive Medicine and Hygiene. Page 117.

In order that the statistics of life within the communities and nations may be strictly comparable, a common unit of population is used as the basis of calculation. The frequency of vital events (births, deaths, marriages, etc.,) are for the most part expressed in terms of the number of such happenings to every 1,000 inhabitants in the community or country. Such frequencies are commonly referred to as "the birth-rate" or "the death-rate" as the case may be.

A Census enumeration or counting of the people must be carried out at regular intervals, and in most civilized countries is undertaken once every ten years. The Census must be taken when the greatest number of people are at their usual place of residence. During normal times a great many people spend the mid-seasons (summer and winter) away from their usual place of residence. Many "Census-dates" have been tried throughout the various countries of the world, but in Canada the enumeration of the Census at June 1st has proven most satisfactory.

Legally, the Census is used for governmental purposes to adjust the representation in legislative bodies—thus the Canadian decennial Census determines the numerical composition of the House of Commons. Statistically, "Census taking" has broadened in scope from a mere "counting of heads" into a great periodical stocktaking of the people and their affairs, both economic and social. It is designed to show fully the stage which has been reached in the progress of the nation and of its component communities and has assumed a position of primary importance in "the ledger of human bookkeeping".

Since the introduction of mechanical tabulation, by Dr. Hermann Hollerith, for the United States Census of 1880, and the invention in 1928 and the subsequent development by the Dominion Bureau of Statistics, of special Census tabulators now capable of twelve combination cross analyses at one time, the scope and flexibility of rapid statistical analysis has been increased to almost limitless bounds. Thus severally, the numbers, local distribution, age, sex, racial origin, nationality, language, religion, education, housing and occupations of the people, constitute investigations of enormous importance, to which all the continuous and routine statistics which are collected in the ordinary course of administration must be related if their full value is to be realized.

In short, then, the Census not only supplies the basic principle of the State's "national bookkeeping system", in respect to the economic and social aspects of "human life accounting", but is also the very foundation upon which the government conducts the business of the country.

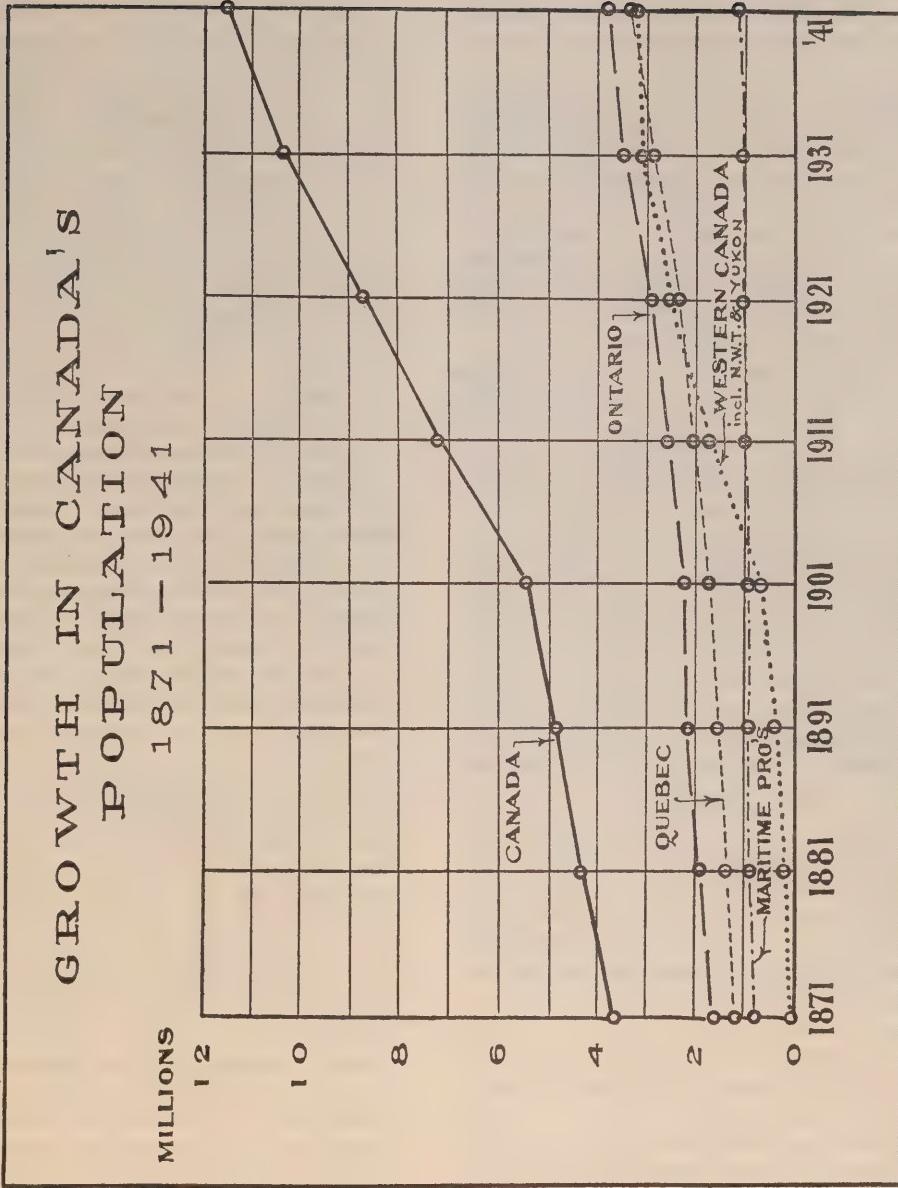
METHOD OF ENUMERATION. — The population of a country or community may be enumerated by either of two methods—first, by a "de facto" census, i.e. the enumeration of every person where he is located at the time the Census is taken, and second, by a "de jure" census, i.e. the enumeration of every person at his "usual place of residence", irrespective of where he may be at the time the Census is taken. The Canadian and United States censuses use the "de jure" principle whereas the census of England and Wales is compiled on the "de facto" principle.

The relative advantages of each method are open to discussion. The "de facto" method is undoubtedly simpler in that enumeration of the population generally takes place within a single day. The "de jure" method on the other hand involves the assignment of persons temporarily absent from their permanent abodes, to the locality of permanent or usual residence. However, the "de facto" method is less satisfactory for areas where transient waves of migration occur periodically, whereas the "de jure" method measures the permanent condition of the population. In the Canadian Census, students and inmates of hospitals are assigned to their home localities, while inmates of prisons, gaols, lunatic asylums, etc. are counted where found. In the general field of public health, and particularly in the consideration of the maintenance and extension of medical, hospital and public health services in a community, the distribution of the population on the basis of its permanent residence (as enumerated in the Canadian Census) is a factor of prime importance.

HISTORY OF THE CENSUS. — The utility to any government of knowing the extent of its resources in men and materials is so obvious that some means of ascertaining this knowledge was probably employed very early in the history of the world. There is no record of such "Census taking" in the Egyptian or Assyrian inscriptions and the Chinese accounts are said to be rather dubious. The first reliable record is that of numbering the Jews by King David. Such early enumerations aroused the hatred and suspicion of the people, and evasions were no doubt common. This antagonistic attitude was due to the use of the enumerations for purposes of tax assessment and conscription, rather than for statistical analyses. With the rise of constitutional government, the individual is now protected by a guarantee of secrecy respecting the facts gathered by the Census enumeration.

The credit for taking the first Census of modern times belongs to Canada, for in 1666 some 3,215 persons were enumerated in New France. The first complete Census of modern times was taken in the

Chart I



year 1751 in Sweden. The first Census of the United States was taken in 1790 and of England and Wales in 1801. Sporadic censuses were taken in the early Canadian colonies as early as 1824 and continued more or less irregularly up to the time of Confederation. The first Census of the Dominion of Canada was taken in 1871, and as in each of these countries has been taken at regular decennial periods ever since.

Under the "Census and Statistics Act" of 1905 and the Statistics Act of 1918, a census of population and agriculture of the three Prairie Provinces was taken in 1906 and every tenth year thereafter, in addition to the enumerations at the decennial census of the whole Dominion. A census of the Prairie Provinces is, therefore, taken as of June 1st, in the sixth year of each decade, giving the Provinces of Manitoba, Saskatchewan, and Alberta, quinquennial enumerations of their population and productive resources.

A concise historical review of the early censuses of Canada, is to be found in several editions of the "Canada Year Book". For the purposes of this study, therefore, only certain pertinent data concerning the distribution of the population of Canada will be summarized in the following pages.

The primary responsibility of a government through its health department is to supply to the people and to co-ordinate medical, hospital and public health services, and for this purpose the health officer must have a complete factual knowledge of the people within his jurisdiction. This basic material can only be supplied by a Census and is as necessary to the small city or county health unit as it is to the provincial or federal health departments.

RESULTS OF THE CENSUSES OF 1921, 1931 and 1941.—The total population of Canada on June 1st, 1941, was 11,506,655 as compared with 10,376,786 on June 1st, 1931 and 8,787,949 on June 1st, 1921, representing increases of 1,588,837 or 18.08 per cent during the first decade (1921-31), of 1,129,869 or 10.89 per cent during the second decade (1931-41) and of 2,718,706 or 30.94 per cent over the twenty-year period.

Chart 1 shows the growth of population in Canada from 1871 to 1941, in point of absolute figures, together with the distribution for the four major geographical sections of the country.

Table 1¹ shows the total population of Canada, distributed by provinces and territories in the Census years, 1871 to 1941. It shows that in 1941, Ontario was first among the provinces in point of numerical greatness, with a population of 3,787,655 or 32.92 per cent; that Quebec was second with 3,331,882 or 28.96 per cent; Saskatchewan third

with 895,992 or 7.79 per cent and British Columbia fourth with 817,861 or 7.11 per cent of the total population of the Dominion.

Table 2 shows the percentage changes in the population of Canada by provinces and territories in each decade from 1871 to 1941.

Figures in Table 2 indicate that the movement of population within the Dominion was distinctly from east to west, until 1931. A similar trend was formerly evident in the United States. In the decade 1911 to 1921 this was clearly apparent, as the four western provinces then increased their population by no less than 44 per cent. This growth occurred chiefly in the three Prairie Provinces, as their combined population increased in the decade by 47.3 per cent, while that of British Columbia increased by 33.6 per cent. In the first two decades of the century the greatest influence on population growth and movement in Canada was undoubtedly the agricultural settlement of the Prairie Provinces. The growth of population in these provinces was assisted both by immigration into Canada and by movement of domestic population from east to west.

While the agricultural industry of the Prairie Provinces has encountered periods of serious difficulty since 1918, major economic developments have been in progress in mining and forest products and in the hydro-electric power industries of Ontario, Quebec and British Columbia. Furthermore, in this period immigration has been a less important factor in population growth than it had been prior to 1914. The high rate of natural increase in Quebec has now become a factor of relatively greater importance. The Census of 1931 revealed the changing trends resulting from these influences, as in the decade 1921 to 1931 the population of British Columbia increased 32.3 per cent and that of Quebec 21.8 per cent compared with 20.3 per cent for the Prairie Provinces. On the other hand the Census of 1941 revealed that the movement of population within the Dominion has reversed during the decade 1931 to 1941, and is now swinging from west to east, with the Maritime Provinces showing a combined percentage increase of 12.0 as against a combined percentage increase of 2.9 per cent for the Prairie Provinces. The British Columbia percentage increase during this last decade has been almost halved, dropping to 17.8 per cent, while Quebec has dropped to 15.9. The 1936 quinquennial Census of the Prairie Provinces likewise showed very little increase in population during the five-year period.

This change in the movement of population has been influenced no doubt by the economic depression during the early years of the last decade and by the

¹ Tables will be found at the end of each chapter.

drought which struck the middle west of both Canada and the United States about 1935. The further drop in the percentage increase of population as a whole from 18.08 in 1931 to 10.89 in 1941 clearly reflects the fact that immigration has ceased to be a factor in the population increase of Canada and that the rate of natural increase is declining.

These changes are also indicated by the percentage figures in Chart 2, which shows the percentage distribution of the population of Canada by Provinces and Territories from 1871 to 1941, and further reflects the movement of population from east to west in the earlier decades up to 1921 and the reversal which has been in effect during the last twenty years. It clearly indicates the percentage increases of Quebec and the Maritimes and reveals the heavy concentration of the population in the Provinces of Ontario and Quebec with a combined total of 61.87 per cent of the total population of the entire Dominion in 1941.

CENTRES OF POPULATION. — The "Centre of population"² for the Dominion of Canada was carefully worked out for each census from 1851 to 1931, inclusive, and showed a definite north-westward movement up to 1911, westward for 1921 and 1931. For the Censuses of 1851 to 1881, the location was near Valleyfield, Quebec. In 1891 it was 25 miles west of Ottawa; in 1901, near Pembroke; in 1911, 45 miles west of Sudbury; in 1921, 50 miles northeast of Sault Ste Marie; in 1931, 35 miles north of Sault Ste Marie. The centre of population in 1941 has not yet been determined.

DENSITY OF POPULATION. — Population for statistical purposes is generally measured by the number of persons dwelling upon an area of land, viz. a square mile (when dealing with large unit areas, such as countries or provinces) or an acre (when dealing with small unit areas, such as cities or towns). This ratio of convenience is referred to as "the density of population", but this ratio does not suppose that the persons within a unit area are uniformly distributed over its surface.

Population density is an important factor in public health administration, because as an area's density increases so likewise do public health problems increase. Newsholme³ has shown that—

"One of the greatest influences militating against health (in Great Britain) in the last century has been the increasing gravitation of population into crowded cities."

An increasing density of population say within a watershed supplying water for human consumption,

increases the relative liability of the water becoming contaminated and unfit for use, and increases the need for the establishment of filtration or other purifying units. For these and many other reasons it is of extreme importance to the health officer to have a general knowledge of the density of the population within his health area.

According to fairly reliable estimates, based for the most part on direct enumeration, the geographical-continental distribution and continental-population density of the people inhabiting the earth in 1930-31 was as follows:

Continent	Population	Area in Sq. Miles	Persons per Sq. Mile
Africa.....	140,045,880	11,566,000	12.1
Asia.....	1,067,859,016	16,178,000	66.0
Europe.....	517,463,224	4,412,000	117.3
North America ⁽¹⁾	168,575,606	8,654,000	19.5
Oceania.....	82,526,488	3,301,000	25.0
South America.....	82,748,900	7,055,000	11.7
World Totals.....	2,059,219,114	51,166,000	40.2

⁽¹⁾ Including Central America and West Indies.

These figures reveal that population density is far greater in the Old World (Europe and Asia) than in the New World (America and Oceania) and that even Africa, with its ancient civilization to the north, has a comparatively low population density when the vast unexplored central areas of desert and jungle are included in the density calculations.

The average density of population for England and Wales has increased steadily since the first Census of 1801 when it was 152 persons per square mile; by 1861 it was 344; by 1891 it was 497; by 1911 it was 618; by 1931 it had increased to 685 persons per square mile.

In Scotland the density of the population per square mile in 1801 was 54; in 1861, 100; in 1891, 135; in 1911, 160; and by 1931 it had increased to 163 persons per square mile.

While England and Wales and Scotland have shown a steady increase in both total population and density per square mile since the first census of modern times in 1801, the reverse situation is to be found in (all) Ireland since 1841, when the country reached its maximum population of 8,196,597 persons. By 1936-37 the total population of both units (Northern Ireland and Eire) stood at 4,248,173 persons. The density of population for (all) Ireland in 1821 was 214; in 1841, 257; in 1861, 182; in 1891, 148; in 1901, 140; in 1921, 137 and in 1936-37 it had decreased to 133 persons per square mile.

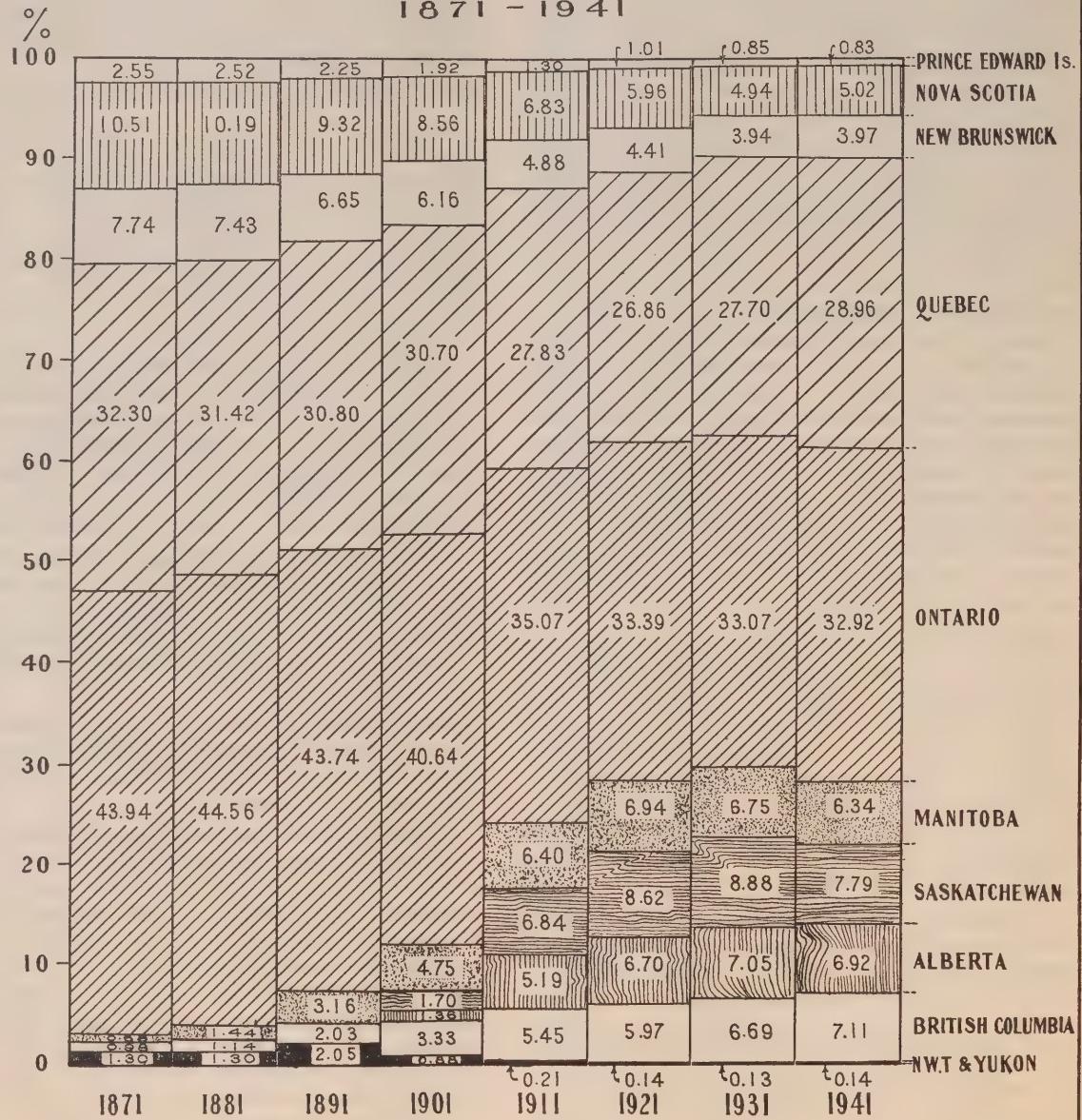
² For definition — see Canada Year Book, 1939. Page 84.

³ Newsholme, Sir Arthur — Vital Statistics, page 275.

Chart 2

**POPULATION
PERCENTAGE DISTRIBUTION
BY
PROVINCES AND TERRITORIES**

1871 - 1941



Greater London (Metropolitan) recorded a density of 10,465 in 1911; of 10,796 in 1921 and of 11,839 in 1931.

The following figures give some idea of the population density in ten of the larger cities of the Old World.

City and Date of Census or Estimate	Total Population	Persons per Square Mile
Tokyo (1940).....	7,001,460	27,243
Paris (Greater) (1936).....	4,933,855	26,669
Berlin (1939).....	4,332,000	13,048
Moscow (1939).....	4,137,000	17,909
Vienna (1939).....	1,918,462	17,930
Bombay (1931).....	1,486,971	48,390
Cairo (1937).....	1,312,096	21,161
Glasgow (1939).....	1,181,500	25,144
Birmingham (1937).....	1,029,700	12,871
Nanking (1936).....	1,019,148	23,162

The average density of population for the United States has increased steadily since the first Census of 1790 when it was 4.5 persons per square mile; by 1860 it had increased to 10.6; by 1910, to 30.9; by 1920, to 35.5; by 1930, to 41.3; and by 1940 it had increased to 44.2 persons per square mile.

Some idea as to the metropolitan density per square mile on the North American continent is revealed in the following figures:

City	Census				
	1900	1910	1920	1930	1940
Baltimore.....	6,465	7,094	9,205	10,224	10,913
Boston.....	12,776	15,275	17,040	17,794	17,558
Chicago.....	8,413	10,823	13,381	16,723	16,824
Cleveland.....	5,395	7,923	11,261	12,725	12,412
Detroit.....	2,071	3,377	7,205	11,375	11,772
Los Angeles.....	2,327	724	1,309	2,811	3,416
New York.....	11,495	15,942	18,796	23,178	24,933
Philadelphia.....	10,107	12,101	14,248	15,241	15,088
Pittsburgh.....	8,801	10,407	11,468	13,056	13,092
St. Louis.....	9,430	11,262	12,670	13,474	13,377
San Francisco.....	8,161	9,926	12,063	15,104	15,108
Washington, D.C.....	4,495	5,339	7,057	7,852	10,695

Population growth in Canada has been much slower than that of the United States, with the result that the general density is far less in this country than that which obtains in the sister nation. Table 3 shows the density of population in Canada at the Census of 1941 in comparison with various countries of the world at their last censuses. The table reveals that Canada has the second lowest density with 3.32 persons per square mile and that the Commonwealth of Australia recorded the lowest density with 2.23 in 1933. It will be seen that European countries, generally, record the highest ratios of population density and that England and Wales with a

density of 684.71 was second among the countries listed. It should not be assumed, however, that a low density is necessarily evidence of under-population. If density could be expressed in terms of estimated habitable area, the figures would be more comparable, but even then natural physical factors such as climate, topography, physical condition of the soil, mineral wealth, etc., would not be adequately weighted. These considerations should be borne in mind when comparing the figures of this table.

The density of the population in Canada by provinces, at each census from 1901 to 1941 is shown in Table 4. The figures reveal that the percentage increase in density from 1901, when there were 1.55 persons per square mile, to 1941, when the ratio was 3.32, was 114.2. During the last decade the percentage increase in density was 11.0. Excluding the Territories, the increase in Canada's population density has been more rapid, and since 1901, when the ratio stood at 2.66 persons per square mile, the percentage increase to 1941, was 115.8, at which time there were 5.74 persons per square mile. Generally speaking the density of population in Canada decreases as one travels westward, but the enormous area of the province of Quebec unduly reduces the density of its population, which was 5.49 in 1931 and 6.36 persons per square mile in 1941. Excluding the unpopulated northern area of the province, Quebec recorded ratios of 20.87 and 24.05 respectively, for 1931 and 1941. A wide variation in the density of population as between the nine provinces may be noted, with the greatest density in Prince Edward Island and the lowest in British Columbia.

The densities of population in 1931 and 1941, by counties or census divisions, are given in Table 5. The figures reveal the extreme variations which exist between the several local areas throughout the Dominion. The figures further emphasize the decreases in the density of the population from east to west. In some of the provinces a wide variation in county densities is to be found. For example, in Quebec the densities of population for Montreal Island of 4,994.4 and 5,556.2 persons per square mile in 1931 and 1941 respectively, rank among the highest in the world, while in such counties as Abitibi, Chicoutimi, Lac St. Jean, Montcalm, Pontiac, Saguenay and Temiscamingue the density for each was less than 5 persons per square mile. In Ontario, the variations are less pronounced, but the York County densities (which includes the City of Toronto) of 971.6 in 1931 and 1,078.9 in 1941 are relatively high densities, while the districts of Algoma, Cochrane, Kenora, Rainy River, Thunder

Bay and Patricia recorded densities of less than 3 persons per square mile at each Census.

In the four western provinces only two Census Divisions recorded densities in excess of 40 persons per square mile, viz., Division 6 of Manitoba, with the city of Winnipeg and immediate environments as the influencing factor, which recorded ratios of 116.5 persons per square mile in 1931 and of 121.2 in 1941, and Division 4 of British Columbia, with the cities of the lower Fraser Delta as the influencing factor, which recorded ratios of 38.9 persons per square mile in 1931 and of 46.0 in 1941. Generally speaking the density of the western Census divisions is in the neighborhood of 8 persons per square mile in Manitoba, 5 in Saskatchewan and 4 in Alberta, while in British Columbia the wide variations are again apparent from the 46.0 ratio of persons per square mile in Division 4 to that of 0.10 in Division 10.

Map 1¹ shows the distribution of the population of Canada at the Census of 1931, exclusive of the Northern Regions. The heavy concentrations of population are very apparent along the St. Lawrence River Valley area in the Province of Quebec; the southern portion of the province of Ontario; along the southern end of the Fraser River Valley and the southern tip of Vancouver Island in British Columbia.

The Index Map of Canada (Map A) showing counties and census divisions is inserted as a guide to Maps 2 to 6 in Section 1 as well as to Map 1 in Section 2.

Maps 2 and 3 show the counties or census divisions of Canada which had attained a maximum population prior to 1931 and 1941 respectively, with their varying ratios of density at maximum.

Map 4 shows the population of Canada within the counties or census divisions, according to varying degrees of density. Summarized, this map reveals that the distribution of the counties or census divisions according to the varying degrees of density was as follows:

Degree of Density	Number of Counties or Census Divisions
Less than 5 persons.....	40
Between —	
5 and 10 persons.....	37
10 and 25 persons.....	42
25 and 50 persons.....	45
50 and 75 persons.....	30
75 and 100 persons.....	4
100 and 500 persons.....	19
500 and 1,000 persons.....	Nil
Over 1,000 persons.....	2
Total.....	219

URBAN AND RURAL DISTRIBUTION. — For the purposes of the census the population residing in cities, towns and incorporated villages is defined as

"urban" and that outside of such localities as "rural". In Canada, the laws of the various provinces differ in regard to the population necessary before a municipality may be incorporated as "urban". The laws of Saskatchewan, for example, provide that 100 persons actually resident on an area of land not greater than 640 acres, may claim incorporation as a village, while the Ontario laws provide that villages making application for incorporation shall have a population of 750 on an area not exceeding 500 acres. Thus, so far as comparable aggregations of population are concerned the line of demarcation between urban and rural population is not uniformly drawn throughout the Dominion. The distinction made between "urban" and "rural" population is one of provincial legal status rather than size of aggregations of population within limited areas.

In Table 6 statistics are given showing the growth of the rural and urban populations respectively, by provinces, together with the numerical increases in each decade, since 1901. On the basis of the census classification, in the decade 1911 to 1921 urban communities absorbed nearly 68 per cent of the total increase in the population, with a corresponding percentage of 77 for the 1921-31 decade, with the result that the urban population of Canada in 1931 exceeded the rural by 787,330. In the decade 1931 to 1941, the urban communities absorbed 60 per cent of the total increase in the population, and the urban population of Canada in 1941 exceeded the rural by 998,177. Out of every 1,000 persons in the country on June 1st, 1941, 543 were resident in urban communities and 457 in rural areas, as compared with 537 and 463 respectively, on June 1st, 1931; with 495 and 505 on June 1st, 1921; with 454 and 546 in 1911 and with 375 and 625 in 1901. It must be remembered when comparing these figures that while there is a definite shift of population towards urban communities, a large proportion of the apparent increase in the population of the urban communities is due to an increase in the number of municipalities.

The rural and urban distribution of the population of Canada by sex is shown in Table 7, together with the percentage distribution for each sex and the sex ratio (number of males to every 1,000 females) at the Censuses of 1921, 1931 and 1941. The figures show that, for the country as a whole, the males exceed the females and that the excess ratio of males per 1,000 females was 1,064 in 1921; 1,074 in 1931; and 1,053 in 1941; that the excess of males was greater in the rural areas where the ratios per 1,000 females were 1,160 in 1921; 1,182 in 1931 and 1,160 in 1941. In the urban areas the reverse is to be found with deficiencies of male population in the following

¹ Maps for Part V will be found in the pocket at the back of the volume.

ratios, viz., 974 in 1921; 990 in 1931 and 970 in 1941, to every 1,000 females. The table shows that in the matter of percentage distribution as between rural and urban males and females, the same trend is reflected.

All the larger cities have in their immediate vicinity growing "satellite" communities or densely settled areas which are in close economic and social relationship with the central municipal unit. This phenomenon is, today, of increasing importance and is largely the result of greater ease and speed of transportation. Calculations have been made of the total populations resident in what is commonly called today a "metropolitan area or district". In the public health field these metropolitan areas are of great importance, for it has already been demonstrated that not only can public health be administered much more economically by the co-ordination of all its services in unit areas, under one "Metropolitan Health Department", but also that a much improved and more effective service can be given to the citizens in each individual municipality and the area as a whole. On this basis the total populations for the larger metropolitan areas in Canada at the Censuses of 1931 and 1941, together with the decennial percentage increase for each, was as follows:

Metropolitan Area	Population		Decennial Percentage Increase
	1931	1941	
Greater Montreal.....	1,023,158	1,139,921	11.41
Greater Toronto.....	810,467	900,491	11.11
Greater Vancouver.....	308,340	351,491	13.99
Greater Winnipeg.....	284,129	290,540	2.26
Greater Ottawa (including Hull).....	175,988	215,022	22.18
Greater Quebec.....	172,517	200,814	16.40
Greater Hamilton.....	163,710	176,110	7.57
Greater Windsor.....	110,385	121,112	9.72
Greater Edmonton ⁽¹⁾	79,197	93,817	18.46
Greater Halifax.....	75,069	91,829	22.33
Greater Calgary ⁽¹⁾	83,761	88,904	6.14
Greater London.....	77,702	86,740	11.63
Greater Victoria.....	59,510	75,218	26.40
Greater Saint John.....	58,717	65,784	12.04
Greater Regina ⁽¹⁾	53,209	58,245	9.46

⁽¹⁾ Metropolitan Area boundaries uniform with city boundaries.

NOTE:—A set of descriptions of the geographical boundaries of these metropolitan areas may be obtained upon application to the Census Branch of the Dominion Bureau of Statistics.

During the decade 1921 to 1931 the population showed indications on the whole of being attracted to the larger cities. Thus the following figures show that the two cities of over 500,000 population (Montreal and Toronto) increased their proportions of the total population from 12.98 per cent in 1921 to 13.97 in 1931. For cities of between 100,000 and 500,000 there was a decrease in their aggregate pro-

portion from 9.80 per cent to 8.46 per cent of the total while cities of between 5,000 and 100,000 increased from 17.68 per cent to 19.29 per cent. During the 1931-41 decade, the percentage proportion of the first group (Montreal and Toronto) dropped slightly to 13.62, that of the second group increased to 9.34 while that of the third group increased further to 19.98.

As will be seen the large absolute increase in the total population of the municipalities of less than 1,000 persons from 1921 to 1931 was due almost entirely to the addition of newly incorporated places.

The population figures for the cities and towns of Canada, having a population of over 1,000 inhabitants at the Censuses of 1931 and 1941 are to be found in Table 22—Births; Table 26—Infant Mortality; Table 42—Deaths; and Table 16—Natural Increase; while the population figures for the counties or census divisions for the Censuses of 1931 and 1941 are to be found in Table 5.

SEX DISTRIBUTION.—The sex distribution is important whenever marriage rates, birth rates, sickness rates and death rates are being studied. Census reports carry considerable detail regarding the number of males and females in the population and even inter-censal estimates by sex composition are calculated for countries and large administrative areas.

The ratio of males to females in the population has varied considerably since the advent of modern census enumeration. For example, in England and Wales the number of females to every 1,000 males has varied from 1,057 in 1801 to 1,068 in 1901; to 1,096 in 1921 and 1,087 in 1931. A large excess of females in the population results in an excess of unemployed females, with plenty of domestic servants; this is said by Newsholme⁴ to imply a higher social status.

In the United States there is a reverse situation, with an excess of males to every 1,000 females. In 1820 the ratio stood at 1,033 males to every 1,000 females; in 1900 it was 1,044; in 1920 it was 1,040; and in 1930 it was 1,025. The Census reports showed that the excess of males was to be found among the foreign born, for the ratio among the immigrant population in 1910 was 1,292, as compared with 1,027 for the native born population, in 1930 the ratios being 1,151 and 1,011 respectively.

Throughout the older countries of the world there is usually found an excess of female over male population. The causes of this excess of female population are (1) the normally higher rate of mortality among males; (2) the greater number of males who

URBAN POPULATIONS, CLASSIFIED BY SIZE OF MUNICIPALITY GROUPS, 1921, 1931 AND 1941.

Group	1921			1931			1941		
	Number of Places	Population	Per cent of Total Population	Number of Places	Population	Per cent of Total Population	Number of Places	Population	Per cent of Total Population
Over 500,000.....	2	1,140,399	12.98	2	1,449,784	13.97	2	1,570,464	13.62
Between —									
200,000 and 500,000.....	2	342,307	3.90	2	465,378	4.48	2	497,313	4.32
100,000 and 200,000.....	4	518,298	5.90	3	413,013	3.98	4	577,356	5.02
50,000 and 100,000.....	5	336,650	3.83	7	470,443	4.53	7	508,808	4.42
25,000 and 50,000.....	7	239,096	2.72	10	339,521	3.27	19	605,805	5.27
15,000 and 25,000.....	19	370,990	4.22	23	457,292	4.41	20	377,505	3.28
10,000 and 15,000.....	18	224,033	2.55	23	275,944	2.66	24	296,195	2.57
5,000 and 10,000.....	54	382,762	4.36	68	458,784	4.42	74	510,429	4.44
3,000 and 5,000.....	72	272,720	3.10	71	273,276	2.63	91	348,709	3.03
1,000 and 3,000.....	293	492,116	5.60	324	557,466	5.37	336	558,820	4.86
500 and 1,000.....	290	215,648	2.45	322	231,375	2.23	311	220,877	1.92
Under 500.....	679	159,410	1.81	750	179,782	1.73	754	180,135	1.57
Totals.....	1,443	4,352,122	49.52	1,605	5,572,058	53.70	1,644	6,252,416	54.35

travel; (3) the effects of war; (4) the employment of males in the army, navy and merchant marine; and (5) the preponderance of males among emigrants. In the newer countries of the world, however, the preponderance of males among immigrants results in a general excess of male over female population. The sex ratios (excess of males over females) for various countries of the world in recent years are given in Table 8 and illustrate the variations for both older and newer countries.

In Table 9 figures are presented, showing the number of males and females in each of the provinces and territories of Canada at each census since 1871. In Canada there has been an excess of male population from the commencement of its history, the first census, 1666, showing 2,034 males to 1,181 females. As the colony increased in numbers, the disproportion between sexes became smaller, more especially as the French-Canadian population, since about 1680, was not reinforced by immigration from the old world. In 1784, when the English-speaking immigration to Canada for purposes of settlement commenced on a larger scale, there were 54,064 males and 50,759 females in the colony. Since Confederation the same phenomenon of considerable excess of males has occurred throughout the growing Northwest.

The great influx of immigrants during the first decade of the present century resulted in raising the ratio of males to females to the highest point in recent history, viz., 6.07 per cent in 1911. The Great War, however, both checked immigration and took about 60,000 young Canadian male lives as its toll, with the result that at the Census of 1921 the excess of males

per 1,000 females of the population was only 3 per cent—515 to 485 females per 1,000 of population. In 1931 there were 518 males to 482 females for Canada as a whole or an excess of males of 3.6 per cent, and in 1941 the ratio was 513 males to 487 females or an excess male ratio of 2.6 per cent. It is interesting to note that the excess male ratio has increased in the eastern provinces and decreased in the western provinces where it was formerly greater.

Chart 3 shows the percentage sex distribution of the population of Canada from 1871 to 1941. It will be seen that at the Census of 1911, the percentage of males in the population reached its highest point, 53.03 per cent, and that during subsequent censuses the percentage of males has been gradually decreasing to 51.28 per cent in 1941.

AGE DISTRIBUTION. — The age composition of the population is the key which alone furnishes the answer to so many of the phenomena associated with the various populations. It is by the utilization of age distribution that death rates comparable with similar rates for other communities or countries can be properly stated. Age as a factor in vital statistics is more important than any other particular characteristic concerning the human being, except perhaps sex.

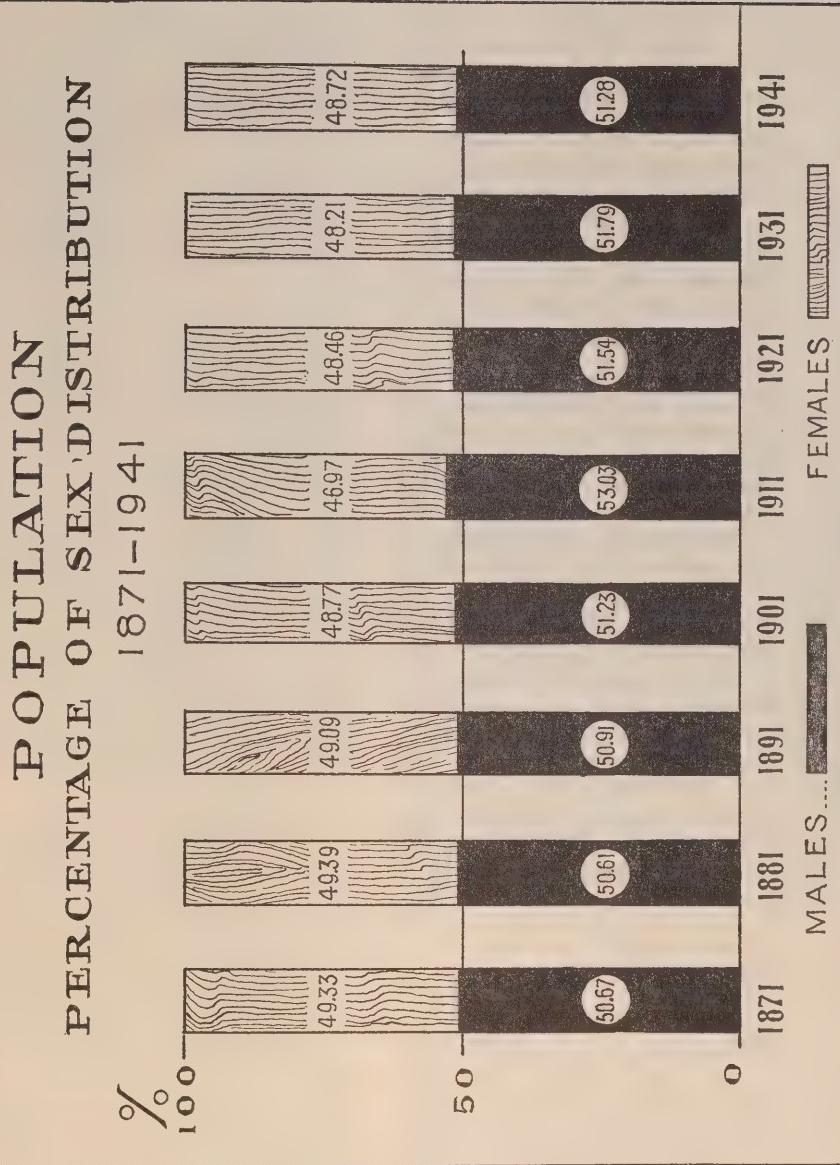
Whipple⁵ states that—

"In taking a census it is impossible to find the exact age of every person in a community, and even if this could be done it would be impracticable to arrange the people in groups,

⁴ Newsholme, Sir Arthur. *Vital Statistics*, Page 55.

⁵ Whipple, George C. *Vital Statistics*, Page 176.

Chart 3



varying by short intervals of time. Infants and young children may be grouped by their age in weeks or months, but older persons are seldom divided into groups for which the time interval is less than one year. Five-year and ten-year groups are even more commonly used".

Generally speaking for all public health purposes this is the criterion by which vital statistics phenomena are measured throughout the civilized world where census enumeration is undertaken.

The census report of the Registrar-General of England and Wales shows that out of the total population in 1911: (a) more than one-tenth was under 5 years of age; (b) more than one-fifth was under 10 years of age; (c) nearly two-fifths was under the age of 20 years; (d) one-half was in the age group 20 to 55 years of age and (e) over one-tenth was to be found at over 55 years of age.

Marked variations are to be found between the average age distribution of the population in town and country; in mining and residential areas and in agricultural as compared with industrial areas. Striking changes have occurred in the age distribution of a community between censuses and even during the course of a few months. For instance in England and Wales in 1881, for every 1,000 persons at all ages, there were 136 children under 5 years of age, but by 1891 the proportion decreased to 123; by 1901 it had further decreased to 114 and by 1931 had reached 75. It follows, therefore, that as the ratio of children diminishes, there is an increased ratio of persons in the higher age groups—this is referred to as "the ageing of the population". The following tables show proportions of persons at specified age groups in and about the years 1911 and 1931 indicating the countries which had relatively young or old populations in 1911 and the changes in their age structures which have occurred since that date:

PROPORTION OF PERSONS AT DIFFERENT AGES IN OR ABOUT THE YEAR 1911⁽¹⁾

Country	Under 5	5-15	15-25	25-45	45 and over	All Ages
England and Wales	107	199	182	299	213	1,000
Scotland	112	210	185	282	211	1,000
Ireland	99	197	182	267	255	1,000
Australia	119	199	202	288	192	1,000
New Zealand	117	196	183	323	181	1,000
Canada	124	207	193	289	187	1,000
Union of South Africa	150	247	195	277	131	1,000
United States	116	205	197	292	190	1,000
France	89	169	160	291	291	1,000
Germany	120	220	183	273	204	1,000

(1) Source: (Newsholme, Vital Statistics, Page 61).

CUMULATIVE PROPORTIONS UP TO 49 YEARS OF AGE OF PERSONS AT SPECIFIC AGES IN OR ABOUT THE YEAR 1931, FOR CERTAIN COUNTRIES.

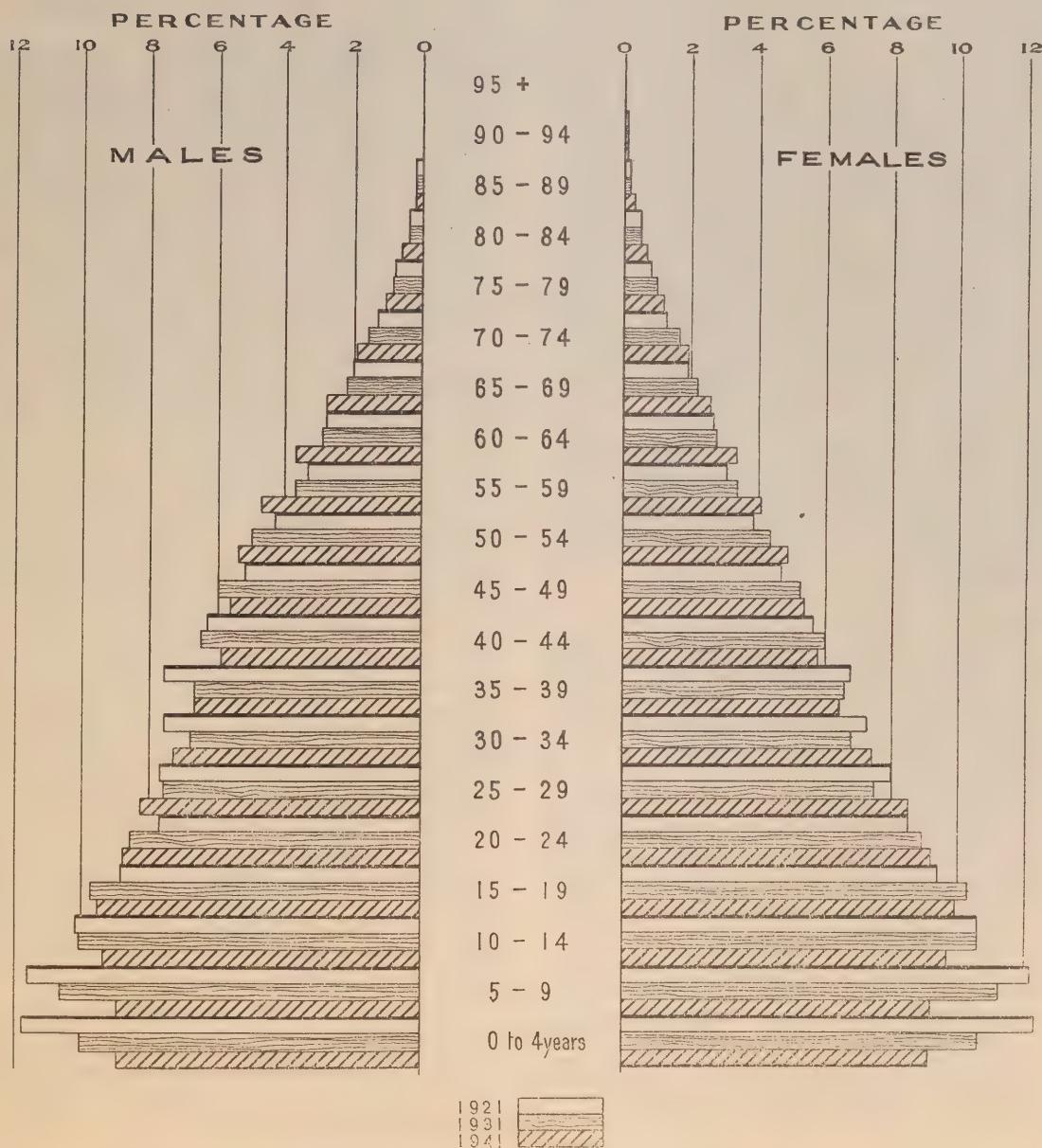
Country	Under						50 and over	All Ages
	5	10	20	30	40	50		
Union of South Africa (Whites) (1931)....	114	223	431	610	740	848	152	1,000
Canada (1931).....	104	213	417	581	716	835	165	1,000
United States (1930)....	93	196	388	557	706	829	171	1,000
Germany (1925).....	94	158	362	546	688	812	188	1,000
Australia (1933)....	86	181	368	537	681	811	189	1,000
Italy (1921).....	94	201	411	573	702	808	192	1,000
Scotland (1931).....	87	181	360	527	664	782	218	1,000
Ireland (1926).....	98	193	387	544	666	779	221	1,000
Sweden (1930).....	74	159	339	512	656	776	224	1,000
England and Wales (1931).....	75	158	324	495	642	773	227	1,000
France (1931).....	87	173	304	471	618	746	254	1,000

It will be noted that in 1911, South Africa, Australia, Canada and the United States had a greater than average proportion of their populations at the younger ages (i.e. up to about 25 years of age) due in the main to immigration from the older European countries and to relatively high birth rates, which are generally associated with comparatively new countries. England, Scotland, Ireland and Germany had about equal standing, while France was poorest. At the working ages (25-45) France had, however, a larger proportion than Germany, while all other countries had about equal standing. Ireland and France both showed disproportionate percentages of persons at the older ages, the former illustrative of the penalty of heavy emigration over several decades, the latter, of a consistently low birth-rate protracted over many years.

Twenty years later (1931) the standing remained relatively unchanged in so far as the younger countries were concerned. Immigration to these has been of relatively minor importance during the past two decades and their young populations have been sustained mainly by comparatively high birth rates. Three European countries, however, have shown decided changes in their age structures, namely Germany, Italy, and Ireland, and to some extent France. Germany and France have had relative increases in the very young ages while Italy and Ireland have rather radically rejuvenated their populations over a period of years, the former by subsidization of large families, the latter by the retention of that section of her population which formerly migrated with little or no persuasion. The British Isles, Sweden and France still have of course disproportionate percentages of their populations at the older ages.

Chart 4

**POPULATION
PERCENTAGE DISTRIBUTION BY SEX
AND
QUINQUENNIAL AGE GROUPS
CANADA
1921 - 1931 - 1941**



The same causes which have in the past rendered the sex distribution of population of Canada somewhat unusual, have also affected its age composition. In the first stages of the settlement of a new country, men in the prime of life constitute the bulk of the population and women and children are conspicuous by their absence so that there will be a disproportionately large male population between the ages of 20 and 50, together with a low birth rate. Later on when there is land and food for all and when the early disproportion of the sexes has been overcome, there is a very high rate of natural increase, and an extraordinarily large proportion of children among the population.

In 1871 approximately 28 per cent of the population of Canada consisted of children under 10 years of age and over half the population was under 20 years of age, but, with the growing "urbanization" of population, the average age at marriage increased and children came to be regarded as a liability rather than an asset. Thus by 1911, approximately only 23 per cent of the population was under 10 years of age, and roughly 43 per cent was under 20 years of age. By 1931, the percentage of children under 10 years of age had dropped to less than 21 and under 20 years to 41 per cent. In 1941, about 18.2 per cent was under 10 and 37.5 per cent was under 20 years of age.

Table 10 gives the distribution of the population of Canada by age status and sex in five-year groups at the Censuses of 1921, 1931 and 1941, while Chart 4 shows the percentage distribution of the population of Canada by sex and quinquennial age groups for 1921, 1931 and 1941.

William R. Tracey⁶ found that—

"The Canadian population was ageing between the Census of 1921 and 1931. This is true also of the population of the eight provinces comprising the "Registration Area as of 1921". This ageing of the population has a favourable effect on the crude mortality rates for certain causes and an unfavourable effect on the crude rate for others. The favourable effect was on diseases, particularly affecting children and while evident for measles, scarlet fever and diphtheria, was particularly evident in the case of whooping cough.

The ageing of the population produced an unfavourable effect on the crude rates from cancer, cerebral haemorrhage and cardio-vascular-renal diseases. Diabetes mellitus was also affected in this manner and a change in the incidence of mortality from this disease tended to magnify the effect.

The crude rates from all forms of tuberculosis considered together was little affected by the ageing of the population".

This "ageing of the population" is a serious problem, both from an economic and social stand point. With a continuation of the decreases in the rate of natural increase and the lack of any heavy immigration, the proportion of infants and persons in the younger age brackets, is becoming less, and consequently the population of Canada is ageing more rapidly. If Canada is to survive as a nation, something must be done about the re-stocking of the human elements in the population.

It is doubtful whether Europe, after the present conflict, will be able to supply any appreciable help in this direction for a number of years, her own stocks being so badly depleted. Therefore, we must look for our own corrective factors. These might include (1) an increase in natural reproduction; (2) the prevention of disease; (3) the prolongation of life; (4) and an improvement in the physical and mental efficiency of the Canadian people.

Salvage of a considerable amount of the present wastage of human resources of the country is possible by (1) eliminating preventable deaths; (2) reducing deaths in the early ages to a minimum and (3) eliminating the dangers of motherhood, childbirth and early infancy.

MARITAL STATUS.—The factors of marital status within the population of a community or country enable the statistician to compute specific death-rates for males and females according to their marital condition. It has been found, for instance, that the rates for single men are considerably higher than those for married men, in fact, during the ages of high productivity, 25 to 45, they might be almost double, with an equalization as the higher age brackets are attained. The death rates for single females are generally found to be higher than the rates for married females, except during the child-bearing period (from 16 to 45 years of age) when the rates for married women are found to be higher.

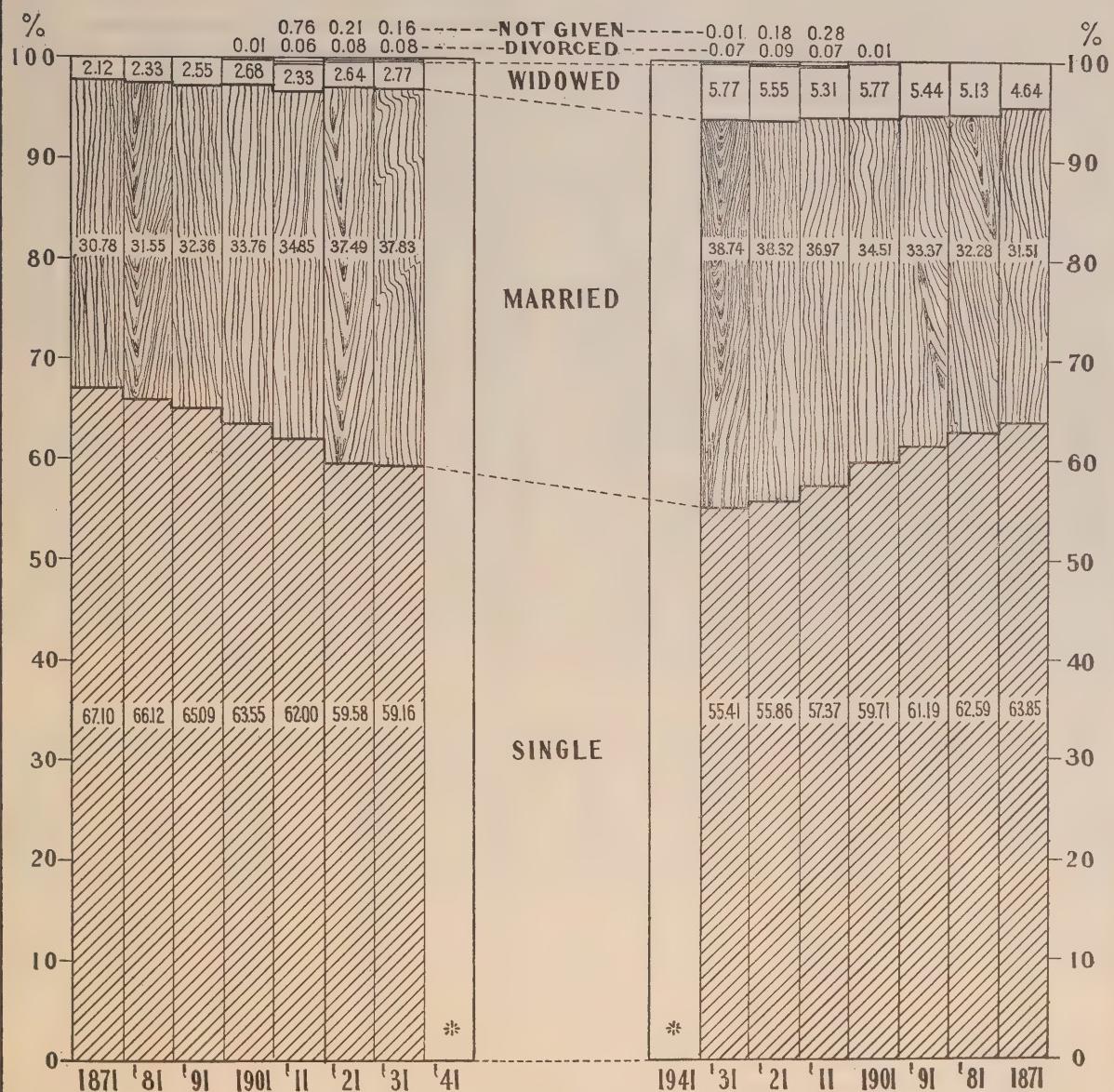
Many theories have been advanced in explanation of this phenomena—such as (1) the better economic and social conditions which surround married persons; (2) the effect of marriage selection and (3) the effect of the marriage relationships which tend towards a more orderly and restrained life.

The figures in Table 11 give the marital status (conjugal condition) of the population of Canada, for the 1871 and subsequent Censuses, as single,

⁶ Tracey, William R.—The Effect of the Ageing of the Canadian Population on Mortality from Certain Causes. Summary.

Chart 5

**POPULATION
PERCENTAGE DISTRIBUTION
BY
SEX AND MARITAL STATUS
1871 - 1941**



* Not available

married, widowed, and divorced (including legally separated), together with the sex distribution. The notable feature of this table is the large number of married persons in the more recent years. This is mainly attributable to the larger percentage of adults to the total population at present. Equally noteworthy is the larger number of divorced and legally separated persons in later years.

Chart 5 shows the percentage distribution of the population by sex, according to marital status from 1871 to 1931 (no figures being available for 1941) and reveals that the proportion of single males which stood at 67.1 per cent in 1871 and decreased steadily during each decade to 59.2 in 1931, and that the rate of proportionate decrease for single females was almost identical, viz., from 63.9 in 1871 to 55.4 in 1931. On the other hand the percentage of married males in the population, which stood at 30.8 in 1871, increased steadily during each decade to 37.8 in 1931, and the proportion of married females likewise increased from 31.5 in 1871 to 38.7 in 1931. The proportion of single males during the seventy-year period has been larger than that of females, but in the married category the females predominate slightly.

In the widowed group the males have increased slightly, from 2.1 per cent of the total population of Canada in 1871 to 2.8 per cent in 1931. The proportion of females in the widowed group is double that of the males, with a percentage of 4.6 in 1871 which increased to 5.8 in 1931.

ANNUAL ESTIMATES OF POPULATION. — While the populations in different countries are actually counted at decennial or quinquennial censuses, annual estimates of population are required by modern States for many purposes, such as the calculation of birth, death and marriage rates, and per capita figures of economic and social significance.

In different countries, various methods of obtaining annual figures of post-censal populations are adopted. For example, it is possible with good vital statistics and records of arrivals and departures, to obtain the actual population at any particular date with approximate accuracy by the simple method of adding births and arrivals and subtracting deaths and departures during the period elapsed since the census. This method, however, is impracticable for Canada, with 4,000 miles of common boundary line with the United States, crossed in both directions every day by many thousands of people. The method of arithmetical progression is widely used in estimating the populations in the older countries of the world—this method involves the annual addition to the population of the country and of particular areas within it of one-fifth or one-tenth of the numerical increase in the latest quinquennial or decennial intercensal period. In Canada, prior to the Census of 1931, annual figures of population were purely estimates on the basis of past increases. The intercensal estimates are now worked on the basis of certain known factors, such as natural increase and migration, plus a consideration of the collateral data back to 1867, and the resulting figures are believed to state the populations at intercensal periods with a greater degree of accuracy.

Immediately following every census, the previous postcensal estimates of population are adjusted to the newly enumerated population figures. The figures in Table 12 have been used as the basis for calculation of the rates in this study, those for 1926 to 1930 inclusive are as adjusted to the Census of 1931, while the estimates for the years 1932 to 1940 inclusive are unadjusted to the Census of 1941, owing to the fact that time has not permitted the making of the necessary calculations.

TABLE 1 — POPULATION OF CANADA, BY PROVINCES AND TERRITORIES IN THE CENSUS YEARS, 1871-1941.

Province or Territory	1871	1881	1891	1901	1911	1921	1931	1941
Prince Edward Island.....	94,021	108,891	109,078	103,259	93,728	88,615	88,038	95,047
Nova Scotia.....	387,800	440,572	450,396	459,574	492,338	523,837	512,846	577,962
New Brunswick.....	285,594	321,233	321,263	331,120	351,889	387,876	408,219	457,401
Quebec.....	1,191,516	1,359,027	1,488,535	1,648,898	2,005,776 ⁽¹⁾	2,360,665 ⁽²⁾	2,874,255	3,331,882
Ontario.....	1,620,851	1,926,922	2,114,321	2,182,947	2,527,292 ⁽²⁾	2,933,662	3,431,683	3,787,655
Manitoba.....	25,228	62,260	152,506	255,211	461,394 ⁽¹⁾	610,118	700,139	729,744
Saskatchewan.....	—	—	—	91,279	492,432	757,510	921,785	895,992
Alberta.....	—	—	—	73,022	374,295 ⁽³⁾	588,454	731,605	796,169
British Columbia.....	36,247	49,459	98,173	178,657	392,480	524,582	694,263	817,861
Yukon.....	—	—	—	27,219	8,512	4,157	4,230	4,914
Northwest Territories ⁽⁴⁾	48,000	56,446	98,967	20,129	6,507 ^(1, 3)	7,988	9,723	12,028
CANADA.....	3,689,257	4,324,810	4,833,239	5,371,315	7,206,643	8,787,949 ⁽²⁾	10,376,786	11,506,655

⁽¹⁾ Corrected as a result of the Boundaries Extension Acts, 1912.

⁽²⁾ Revised in accordance with the Labrador Award of the Privy Council, March 1, 1927. The total for Canada includes 485 members of the Royal Canadian Navy who were recorded separately in 1921.

⁽³⁾ Corrected by transfer of population of Fort Smith (368) to Northwest Territories.

⁽⁴⁾ The decreases shown in the population of the Northwest Territories since 1891 are due to the separation therefrom of vast areas to form Alberta, Saskatchewan and Yukon and to extend the boundaries of Quebec, Ontario and Manitoba.

TABLE 2 — POPULATION OF CANADA BY PROVINCES AND TERRITORIES, IN 1871, WITH PERCENTAGE CHANGES BY DECADES, 1871-1941.

Province or Territory	Population in 1871	1871 to 1881	1881 to 1891	1891 to 1901	1901 to 1911	1911 to 1921	1921 to 1931	1931 to 1941	Percentage change in 70 years
Prince Edward Island.....	94,021	15.82	0.17	-5.33	-9.23	-5.46	-0.65	7.96	1.09
Nova Scotia.....	387,800	13.61	2.23	2.04	7.13	6.40	-2.10	12.70	49.03
New Brunswick.....	285,594	12.48	0.01	3.07	6.27	10.23	5.24	12.05	60.16
Quebec.....	1,191,516	14.06	9.53	10.77	21.64	17.69 ⁽¹⁾	21.76	15.92	179.63
Ontario.....	1,620,851	18.88	9.73	3.25	15.77	16.08	16.98	10.37	133.68
Manitoba.....	25,228	146.79	144.95	67.34	80.79	32.23	14.75	4.23	2792.60
Saskatchewan.....	—	—	—	—	439.48	53.83	21.69	-2.80	—
Alberta.....	—	—	—	—	412.58	57.22	24.33	8.82	—
British Columbia.....	36,247	36.45	98.49	81.98	119.68	33.66	32.35	17.80	2156.36
Yukon.....	—	—	—	—	-68.73	-51.16	1.76	16.17	—
Northwest Territories ⁽²⁾	48,000	17.60	75.33	-79.66	-67.67	22.76	21.72	23.71	-74.94
CANADA.....	3,689,257	17.23	11.76	11.13	34.17	21.94 ⁽¹⁾	18.08	10.89	211.90

(1) Revised in accordance with the Labrador Award of the Privy Council, March 1, 1927. The total for Canada includes 485 members of the Royal Canadian Navy who were recorded separately in 1941.

(2) The decreases shown in the population of the Northwest Territories since 1891 are due to the separation therefrom of vast areas to form Alberta, Saskatchewan and Yukon and to extend the boundaries of Quebec, Ontario and Manitoba.

TABLE 3 — DENSITIES OF POPULATION IN VARIOUS COUNTRIES IN RECENT YEARS.

Country	Year	Persons per Sq. mile	Country	Year	Persons per Sq. mile
Belgium.....	1930	697.59	Irish Free State.....	1936	111.33
England.....	1931	684.71	United States of America (not including Alaska).....	1940	44.23
Netherlands.....	1930	605.80	Sweden.....	1935	36.06
Japan.....	1935	469.50	Norway.....	1930	22.57
Germany (not including Saar Territory).....	1933	360.77	Russia ⁽²⁾	1936	21.47
Italy.....	1936	354.61	Russia in Europe ⁽²⁾	1936	59.80
Northern Ireland.....	1937	244.32	Union of South Africa.....	1936	20.32
China proper ⁽¹⁾	1931	234.87	New Zealand.....	1936	15.20
Poland.....	1931	214.51	Argentina ⁽²⁾	1936	11.65
India.....	1931	195.07	Southern Rhodesia ⁽²⁾	1936	8.66
British India.....	1931	247.67	CANADA.....	1941	3.32
France.....	1936	196.97	CANADA (exclusive of the Territories).....	1941	5.74
Scotland.....	1931	162.54	Commonwealth of Australia.....	1933	2.23
Spain (including Canary Islands).....	1930	121.34			

(1) Estimate as of December 31, 1931, taken from Canada Year Book, 1934-35, page 168.

(2) Estimate as at December 31, 1936.

TABLE 4 — AREA AND DENSITY OF POPULATION OF CANADA, BY PROVINCES, 1901-1941.

Province or Territory	Land Area in Sq. Miles	Population 1901 ⁽¹⁾		Population 1911 ⁽¹⁾		Population 1921		Population 1931		Population 1941	
		Total	Per Sq. Mile	Total	Per Sq. Mile	Total	Per Sq. Mile	Total	Per Sq. Mile	Total	Per Sq. Mile
Prince Edward Island.....	2,184	103,259	47.28	93,728	42.92	88,615	40.57	88,038	40.31	95,047	43.52
Nova Scotia.....	20,743	459,574	22.16	492,338	23.74	523,837	25.25	512,846	24.72	577,962	27.86
New Brunswick.....	27,473	331,120	12.05	351,889	12.81	387,876	14.12	408,219	14.86	457,401	16.65
Quebec.....	523,534	1,648,898	3.15	2,005,776	3.83	2,360,665 ⁽²⁾	4.51	2,874,255	5.49	3,331,882	6.36
Ontario.....	363,282	2,182,947	6.01	2,527,292	6.96	2,933,662	8.08	3,431,683	9.45	3,787,655	10.43
Manitoba.....	219,723	255,211	1.16	461,394	2.10	610,118	2.78	700,139	3.19	729,744	3.32
Saskatchewan.....	237,975	91,279	0.38	492,432	2.07	757,510	3.18	921,785	3.87	895,992	3.77
Alberta.....	248,800	73,022	0.29	374,295	1.50	588,454	2.37	731,605	2.94	796,169	3.20
British Columbia.....	359,279	178,657	0.50	392,480	1.09	524,582	1.46	694,263	1.93	817,861	2.28
CANADA (exclusive of the Territories).....	2,002,993	5,323,967	2.66	7,191,624	3.59	8,775,319 ⁽²⁾	4.38	10,362,833	5.17	11,489,713	5.74
Yukon.....	205,346	27,219	0.13	8,512	0.04	4,157	0.02	4,230	0.02	4,914	0.02
Northwest Territories.....	1,258,217	(⁽²⁾) 20,129	0.02	6,507	0.01	7,988	0.01	9,723	0.01	12,028	0.01
CANADA.....	3,466,556	5,371,315	1.55	7,206,643	2.08	8,787,949 ⁽²⁾	2.53	10,376,786	2.99	11,506,655	3.32

(1) The populations of Ontario, Quebec, Manitoba and Northwest Territories were adjusted for 1911 according to the provisions of the Boundary Extensions Acts, 1912, but such adjustment was not carried back to 1901 and this accounts for the apparent decrease of population of the Northwest Territories from 1901 to 1911.

(2) Populations of Northwest River Arm and Rigolet, on Hamilton Inlet have been deducted from Quebec, as these parts were awarded to Newfoundland by decision of the Judicial Committee of the Privy Council, March 1, 1927. The grand total for Canada also contains 485 members of the Royal Canadian Navy who were recorded separately in 1921.

TABLE 5 — AREA AND DENSITY OF THE POPULATION OF CANADA BY COUNTIES OR CENSUS DIVISIONS, 1931 AND 1941.

Province and county	Land Area in Sq. Miles	Population 1931		Population 1941		Province and county	Land Area in Sq. Miles	Population 1931		Population 1941	
		Total	Per Sq. Mile	Total	Per Sq. Mile			Total	Per Sq. Mile	Total	Per Sq. Mile
Canada.....	3,466,556	10,376,786	2.99	11,506,655	3.32	Quebec — continued.					
Prince Edward Island	2,184	88,038	40.31	95,047	43.52	Compton.....	933	21,917	23.49	22,957	24.61
Kings.....	641	19,147	29.87	19,415	30.29	Deux-Montagnes.....	279	14,284	51.20	16,746	60.02
Prince.....	778	31,500	40.49	34,490	44.33	Dorchester.....	842	27,994	33.25	29,869	35.47
Queens.....	765	37,391	48.88	41,142	53.78	Drummond.....	532	26,179	49.21	36,683	68.95
Nova Scotia.....	20,743	512,846	24.72	577,962	27.86	Frontenac.....	1,370	25,681	18.75	28,596	20.87
Annapolis.....	1,285	16,297	12.68	17,692	13.77	Gaspé.....	4,551	45,617	10.02	55,208	12.13
Antigonish.....	541	10,073	18.62	10,545	19.49	Hull.....	2,432	63,370	26.26	71,188	29.27
Cape Breton.....	972	92,419	95.08	110,703	113.89	Huntingdon.....	361	12,345	34.20	12,394	34.33
Colchester.....	1,451	25,051	17.26	30,124	20.76	Iberville.....	198	9,402	47.48	10,273	51.88
Cumberland.....	1,683	36,366	21.61	39,476	23.46	Joliette.....	2,506	27,585	11.01	31,713	12.65
Digby.....	970	18,353	18.92	19,472	20.07	Kamouraska.....	1,038	23,954	23.08	25,535	24.60
Guysborough.....	1,611	15,443	9.59	15,461	9.60	Labelle.....	2,392	20,140	8.42	22,974	9.60
Halifax.....	2,063	100,204	48.57	122,656	59.46	Lac-St-Jean.....	23,590	50,253	2.13	64,306	2.73
Hants.....	1,229	19,393	15.78	22,034	17.93	Laprairie.....	170	13,491	79.36	13,730	80.76
Inverness.....	1,409	21,055	14.94	20,573	14.60	L'Assomption.....	247	15,323	62.04	17,543	71.02
Kings.....	842	24,357	28.93	28,920	34.35	Lévis.....	272	35,656	131.09	38,119	140.14
Lunenburg.....	1,169	31,674	27.09	32,942	28.18	L'Islet.....	773	19,404	25.10	20,589	26.64
Pictou.....	1,124	39,018	34.71	40,789	36.29	Lotbinière.....	726	23,034	31.73	26,664	36.73
Queens.....	983	10,612	10.80	12,028	12.24	Maskinongé.....	2,378	16,039	6.74	18,206	7.66
Richmond.....	489	11,098	22.70	10,853	22.19	Matane.....	3,496	45,272	12.95	55,414	15.85
Shelburne.....	979	12,485	12.75	13,251	13.54	Mégantic.....	780	35,492	45.50	40,357	51.74
Victoria.....	1,105	8,009	7.25	8,028	7.27	Missisquoi.....	375	19,636	52.36	21,442	57.18
Yarmouth.....	838	20,939	24.99	22,415	26.75	Montcalm.....	3,894	13,865	3.56	15,208	3.91
New Brunswick ⁽¹⁾	27,473	408,219	14.86	457,401	16.65	Montagny.....	630	20,239	32.13	22,049	35.00
Alberta.....	681	7,679	11.28	8,421	12.37	Montmorency.....	2,137	16,955	7.93	18,602	8.70
Carleton.....	1,300	20,796	16.00	21,711	16.70	Montreal and Jesus Islands.....	294	1,020,018	3,469.45	1,138,431	3,872.21
Charlotte.....	1,243	21,337	17.17	22,728	18.28	Montreal Island.....	201	1,003,868	4,994.37	1,116,800	5,556.22
Gloucester.....	1,854	41,914	22.61	49,913	26.92	Jesus Island.....	93	16,150	173.66	21,631	232.59
Kent.....	1,734	23,478	13.54	25,817	14.89	Napierville.....	149	7,600	51.01	8,329	55.90
Kings.....	1,374	19,807	14.42	21,573	15.70	Nicolet.....	626	28,673	45.80	30,085	48.06
Madawaska.....	1,262	24,527	19.44	28,176	22.33	Papineau.....	1,581	29,246	18.50	27,551	17.43
Northumberland.....	4,671	34,124	7.31	38,485	8.24	Pontiac.....	9,560	21,241	2.22	19,852	2.08
Queens.....	1,373	11,219	8.17	12,775	9.30	Portneuf.....	1,440	35,590	24.92	38,996	27.08
Restigouche.....	3,242	29,859	9.21	33,075	10.20	Quebec.....	2,745	170,915	62.26	202,882	73.91
St. John.....	611	61,613	100.84	68,827	112.65	Richelieu.....	221	21,483	97.21	23,691	107.20
Sunbury.....	1,079	6,999	6.49	8,296	7.69	Richmond.....	544	24,956	45.88	27,493	50.54
Victoria.....	2,074	14,907	7.19	16,671	8.04	Rimouski.....	2,089	33,151	15.87	44,233	21.17
Westmorland.....	1,430	57,506	40.21	64,486	45.10	Rouville.....	243	13,776	56.69	15,842	65.19
York.....	3,545	32,454	9.15	36,447	10.28	Saguenay ⁽³⁾	315,176	21,754	0.07	29,419	0.09
Quebec.....	523,534	2,874,255	5.49	3,331,882	6.36	Shefford.....	567	28,262	49.84	33,387	58.88
Abitibi ⁽²⁾	76,725	23,692	0.31	67,689	0.88	Sherbrooke.....	238	37,386	157.08	46,574	195.69
Argenteuil.....	783	18,976	24.23	22,670	28.95	Soulanges.....	136	9,099	66.90	9,328	68.59
Arthabaska.....	666	27,159	40.78	30,039	45.10	Stanstead.....	432	25,118	58.14	27,972	64.75
Bagog.....	346	16,914	48.88	17,642	50.99	St-Hyacinthe.....	278	25,854	93.00	31,645	113.83
Beaute.....	1,128	44,793	39.71	48,073	42.62	St-Jean.....	205	17,649	86.09	20,584	100.41
Beauharnois.....	147	25,163	171.18	30,269	205.91	St-Maurice.....	1,820	69,095	37.96	80,352	44.15
Bellechasse.....	653	22,006	33.70	23,676	36.26	Témiscamingue.....	8,977	20,609	2.30	40,471	4.51
Berthier.....	1,816	19,506	10.74	21,233	11.69	Témiscouata.....	1,806	50,294	27.85	57,675	31.94
Bonaventure.....	3,464	32,432	9.36	39,196	11.32	Terrebonne.....	782	38,611	49.37	46,864	59.93
Brome.....	488	12,433	25.48	12,485	25.58	Vaudreuil.....	201	12,015	59.78	13,170	65.52
Chamby.....	138	26,801	194.21	32,454	235.17	Verchères.....	199	12,603	63.33	14,214	71.43
Champlain.....	8,586	59,935	6.98	68,057	7.93	Wolfe.....	680	16,911	24.87	17,492	25.72
Charlevoix.....	2,273	22,940	10.09	25,662	11.29	Yamaska.....	365	16,820	46.08	16,516	45.25
Châteauguay.....	265	13,125	49.53	14,443	54.50	Cochrane.....	52,237	58,033	1.11	80,089	1.53
Chicoutimi.....	17,800	55,724	3.13	78,881	4.43	Ontario.....	363,282	3,431,683	9.45	3,787,655	10.43

⁽¹⁾ The areas of the counties in New Brunswick have been revised since the Census of 1931.⁽²⁾ Includes districts of Abitibi and Mistassini.⁽³⁾ Includes district of New Quebec.

TABLE 5 — AREA AND DENSITY OF THE POPULATION OF CANADA BY COUNTIES OR CENSUS DIVISIONS, 1931 AND 1941 — Continued.

Province and county	Land Area in Sq. Miles	Population 1931		Population 1941		Province and county	Land Area in Sq. Miles	Population 1931		Population 1941							
		Total	Per Sq. Mile	Total	Per Sq. Mile			Total	Per Sq. Mile	Total	Per Sq. Mile						
Ontario — continued.																	
Dufferin.....	557	14,892	26.74	14,075	25.27	Manitoba—Continued											
Dundas.....	384	16,098	41.92	16,210	42.21	Division No. 11...	2,914	28,100	9.64	26,637	9.14						
Durham.....	629	25,782	40.99	25,215	40.09	Division No. 12...	3,240	24,344	7.51	25,387	7.84						
Elgin.....	720	43,436	60.33	46,150	64.10	Division No. 13...	3,324	24,263	7.30	26,033	7.83						
Essex.....	707	159,780	226.00	174,230	246.44	Division No. 14...	3,636	25,978	7.14	26,613	7.32						
Frontenac.....	1,599	45,756	28.62	53,717	33.59	Division No. 15...	2,304	10,008	4.34	12,059	5.23						
Glengarry.....	478	18,666	39.05	18,732	39.19	Division No. 16...	176,637	30,669	0.17	38,219	0.22						
Grenville.....	463	16,327	35.26	15,989	34.53	Manitoba—Continued											
Grey.....	1,708	57,699	33.78	57,160	33.47	Division No. 1...	5,944	41,544	6.99	34,171	5.75						
Haldimand.....	488	21,428	43.91	21,854	44.78	Division No. 2...	6,686	42,831	6.41	36,140	5.41						
Haliburton.....	1,486	5,997	4.04	6,695	4.51	Division No. 3...	7,646	46,881	6.13	38,648	5.05						
Halton.....	363	26,558	73.16	28,515	78.55	Division No. 4...	7,579	28,126	3.71	22,300	2.94						
Hastings.....	2,323	58,846	25.33	63,322	27.26	Division No. 5...	5,760	53,948	9.37	51,022	8.86						
Huron.....	1,295	45,180	34.89	43,742	33.78	Division No. 6...	6,787	109,906	16.19	108,816	16.03						
Kenora.....	18,150	21,946	1.21	23,759	1.31	Division No. 7...	7,471	63,230	8.46	53,852	7.21						
Kent.....	918	62,865	68.48	66,346	72.27	Division No. 8...	9,264	49,361	5.33	42,845	4.62						
Lambton.....	1,124	54,674	48.64	56,925	50.65	Division No. 9...	5,010	60,539	12.08	62,334	12.44						
Lanark.....	1,138	32,856	28.87	33,143	29.12	Division No. 10...	4,860	41,890	8.62	43,207	8.89						
Leeds.....	900	35,157	39.06	36,042	40.05	Division No. 11...	5,979	87,976	14.71	80,012	13.38						
Lennox and Addington.....	1,170	18,883	16.14	18,469	15.79	Division No. 12...	5,982	40,612	6.79	34,673	5.80						
Lincoln.....	332	54,199	163.25	65,066	195.98	Division No. 13...	6,848	42,632	6.23	36,346	5.31						
Manitoulin.....	1,588	10,734	6.76	10,841	6.83	Division No. 14...	13,419	46,222	3.44	65,166	4.86						
Middlesex.....	1,240	118,241	95.36	127,166	102.55	Division No. 15...	8,082	83,697	10.36	89,036	11.02						
Muskoka.....	1,585	20,985	13.24	21,835	13.78	Division No. 16...	8,912	48,736	5.47	53,212	5.97						
Nipissing.....	7,560	41,207	5.45	43,315	5.73	Division No. 17...	6,913	27,315	3.95	33,173	4.80						
Norfolk.....	634	31,359	49.46	35,611	56.17	Division No. 18...	114,833	6,339	0.06	11,039	0.10						
Northumberland.....	734	31,452	42.85	30,786	41.94	Alberta											
Ontario.....	853	59,667	69.95	65,718	77.04	248,800	731,605	2.94	796,169	3.20							
Oxford.....	765	47,825	62.52	50,974	66.63	Division No. 1...	7,323	28,849	3.94	29,595	4.04						
Parry Sound.....	4,336	25,900	5.97	30,083	6.94	Division No. 2...	6,342	57,186	9.02	58,563	9.23						
Peel.....	469	28,156	60.03	31,539	67.25	Division No. 3...	7,018	15,066	2.15	15,518	2.21						
Perth.....	840	51,392	61.18	49,694	59.16	Division No. 4...	6,119	29,067	4.75	29,383	4.80						
Peterborough.....	1,415	43,958	31.07	47,392	33.49	Division No. 5...	7,681	26,651	3.47	18,926	2.46						
Prescott.....	494	24,596	49.79	25,261	51.14	Division No. 6...	10,595	140,624	13.27	146,990	13.87						
Prince Edward.....	390	16,693	42.80	16,750	42.95	Division No. 7...	6,684	38,106	5.70	33,285	4.98						
Rainy River.....	7,276	17,359	2.39	19,132	2.63	Division No. 8...	6,510	61,016	9.37	67,630	10.39						
Renfrew.....	3,009	52,227	17.36	54,720	18.19	Division No. 9...	14,415	24,503	1.70	32,232	2.24						
Russell.....	407	18,487	45.42	17,448	42.87	Division No. 10...	6,180	58,049	9.39	58,807	9.52						
Simcoe.....	1,663	83,667	50.31	87,057	52.35	Division No. 11...	4,753	126,832	26.68	149,193	31.39						
Stormont.....	412	32,524	78.94	40,905	99.28	Division No. 12...	13,083	13,815	1.06	17,431	1.33						
Sudbury.....	18,058	58,251	3.23	80,815	4.48	Division No. 13...	8,103	24,936	3.08	33,172	4.09						
Thunder Bay.....	52,471	65,118	1.24	85,200	1.62	Division No. 14...	8,731	39,508	4.53	47,899	5.49						
Timiskaming.....	5,896	37,043	6.28	50,604	8.58	Division No. 15...	22,845	13,664	0.60	17,484	0.77						
Victoria.....	1,348	25,844	19.17	25,934	19.24	Division No. 16...	11,100	27,945	2.52	30,349	2.73						
Waterloo.....	516	89,852	174.13	98,720	191.32	Division No. 17...	101,318	5,788	0.06	9,712	0.10						
Welland.....	387	82,731	213.78	93,836	242.47	British Columbia											
Wellington.....	1,019	58,164	57.08	59,453	58.34	359,279	694,263	1.93	817,861	2.28							
Wentworth.....	458	190,019	414.89	206,721	451.36	Division No. 1...	15,984	22,566	1.41	21,345	1.34						
York.....	882	856,955	971.60	951,549	1,078.85	Division No. 2...	13,343	40,455	3.03	48,266	3.62						
District of Patricia	135,070	3,973	0.03	10,254	0.08	Division No. 3...	10,729	40,523	3.78	51,605	4.81						
Manitoba.....	219,723	700,139	3.19	729,744	3.32	Division No. 4...	9,764	379,858	38.90	449,376	46.02						
Division No. 1...	4,281	22,817	5.33	27,813	6.50	Division No. 5...	13,206	120,933	9.16	150,407	11.39						
Division No. 2...	2,320	38,810	16.73	41,426	17.86	Division No. 6...	31,420	30,025	0.96	30,710	0.98						
Division No. 3...	2,577	26,753	10.38	24,781	9.62	Division No. 7...	22,187	12,658	0.57	14,344	0.65						
Division No. 4...	2,466	18,253	7.40	15,699	6.37	Division No. 8...	71,985	21,534	0.30	25,276	0.35						
Division No. 5...	5,256	46,228	8.80	48,424	9.21	Division No. 9...	88,128	18,698	0.21	18,051	0.20						
Division No. 6...	2,436	283,828	116.51	295,342	121.24	Division No. 10...	82,533	7,013	0.08	8,481	0.10						
Division No. 7...	2,578	36,912	14.32	36,669	14.22	Yukon											
Division No. 8...	2,160	19,846	9.19	17,803	8.24	205,346	4,230	0.02	4,914	0.02							
Division No. 9...	1,217	45,414	37.32	47,277	38.85	Northwest Territories											
Division No. 10...	2,377	17,916	7.54	19,562	8.23	1,258,217	9,723	0.01	12,028	0.01							

TABLE 6 — RURAL AND URBAN POPULATIONS OF CANADA, BY PROVINCES AND TERRITORIES, DECAENNIAL CENSUSES AND NUMERICAL INCREASES, 1901-1941.

Province or Territory	Population					Numerical Increases in Decade			
	1901	1911	1921	1931	1941	1901-1911	1911-1921	1921-1931	1931-1941
	URBAN								
Prince Edward Island	14,955	14,970	17,560	20,385	24,340	15	2,590	2,825	3,955
Nova Scotia	129,383	186,128	227,038	231,654	267,540	56,745	40,910	4,616	35,886
New Brunswick	77,285	99,547	124,444	128,940	143,423	22,262	24,897	4,496	14,483
Quebec	654,065	966,842 ⁽²⁾	1,322,569	1,813,606	2,109,684	312,777	355,727	491,037	296,078
Ontario	935,978	1,328,489	1,706,632	2,095,992	2,338,633	392,511	378,143	389,360	242,641
Manitoba	70,436 ⁽¹⁾	200,365	261,616	315,969	321,873	129,929	61,251	54,353	5,904
Saskatchewan	14,266 ⁽¹⁾	131,395 ⁽¹⁾	218,958	290,905	295,146	117,129	87,563	71,947	4,241
Alberta	18,533	137,662 ⁽⁴⁾	222,904	278,508	306,586	119,129	85,242	55,604	28,078
British Columbia	90,179	203,684	247,562	394,739 ⁽⁵⁾	443,394	113,505	43,878	147,177	48,655
Yukon	9,142	3,865	1,306	1,360	1,797	-5,277	-2,559	54	437
Northwest Territories	—	—	—	—	—	—	—	—	—
CANADA	2,014,222	3,272,947	4,350,589	5,572,058	6,252,416	1,258,725	1,077,642	1,221,469	680,358
RURAL									
Prince Edward Island	88,304	78,758	71,055	67,653	70,707	-9,546	-7,703	-3,402	3,054
Nova Scotia	330,191	306,210	296,799	281,192	310,422	-23,981	-9,411	-15,607	29,230
New Brunswick	253,835	252,342	263,432	279,279	313,978	-1,493	11,090	15,847	34,699
Quebec	994,833	1,038,934 ⁽²⁾	1,038,096 ⁽⁷⁾	1,060,649	1,222,198	44,101	-838	22,553	161,549
Ontario	1,246,969	1,198,803 ⁽³⁾	1,227,030	1,335,691	1,449,022	-48,166	28,227	108,661	113,331
Manitoba	184,775 ⁽¹⁾	261,029 ⁽³⁾	348,502	384,170	407,871	76,254	87,473	35,668	23,701
Saskatchewan	77,013 ⁽¹⁾	361,037 ⁽¹⁾	538,552	630,880	600,846	284,024	177,515	92,328	-30,034
Alberta	54,489	236,633 ⁽⁴⁾	365,550	453,097	489,583	182,144	128,917	87,547	36,486
British Columbia	88,478	188,796	277,020	299,524	374,467	100,318	88,224	22,504	74,943
Yukon	18,077	4,647	2,851	2,870	3,117	-13,430	-1,796	19	247
Northwest Territories	20,129	6,507 ⁽³⁾	7,988	9,723	12,028	-13,622	1,481	1,735	2,305
CANADA	3,357,093	3,933,696	4,437,360 ⁽⁶⁾	4,804,728	5,254,239	576,603	503,664	367,368	449,511

⁽¹⁾ As corrected in Census Report, Prairie Provinces, 1916.⁽²⁾ The urban population of 970,791, shown in Vol. I, Census 1911, is reduced to 966,842 by the transfer of the populations of Maniwaki, Martinville, Moisie, St. Bruno, St. Martin and St-Vincent de Paul from urban to rural; by adjustments in area of the villages of St. Anne and Ste. Geneviève; and Extension of Boundaries Act, 1912.⁽³⁾ As changed by Extension of Boundaries Act, 1912.⁽⁴⁾ Vol. I, Census 1911, places the urban population of Alberta for that year at 141,937. Included in this figure was the population (5,250) of twelve places which, according to the Report of the Municipal Commissioner for Alberta, were not then incorporated. The places so included were Aethna, Banff, Bankhead, Bellevue, Bickerdike, Cannmore, Cardiff, Exshaw, Hillcrest, Passburg, Queenston, and Elmpark. The correction resulting from this and from other small adjustments consequent upon more definite knowledge as to incorporated areas, places the urban population for 1911 at 137,662. Similar corrections have been made in the urban and rural figures for the Census of 1901.⁽⁵⁾ This includes South Vancouver and Point Grey with 1921 populations of 32,267 and 13,736, respectively, which were then classified as 'rural'.⁽⁶⁾ Including 485 members of the Royal Canadian Navy not distributed to place of residence.⁽⁷⁾ Revised in accordance with the Labrador Award of the Privy Council, March 1, 1927.

TABLE 7—RURAL AND URBAN POPULATION, BY SEX, WITH PERCENTAGE OF EACH SEX AND THE NUMBER OF MALES PER 1,000 FEMALES, CANADA, 1921, 1931 AND 1941.

Item	Population in								
	1921			1931			1941		
	Number	Per cent	Number males per 1,000 females	Number	Per cent	Number males per 1,000 females	Number	Per cent	Number males per 1,000 females
TOTAL									
Males.....	4,529,643	51.54	1,064	5,374,541	51.79	1,074	5,900,536	51.28	1,053
Females.....	4,258,306	48.46		5,002,245	48.21		5,606,119	48.72	
RURAL									
Males.....	(⁽¹⁾) 2,383,071	53.70	1,160	2,602,912	54.17	1,182	2,821,766	53.70	1,160
Females.....	2,054,289	46.30		2,201,816	45.83		2,432,473	46.30	
URBAN									
Males.....	2,146,572	49.34	974	2,771,629	49.74	990	3,078,770	49.24	970
Females.....	2,204,017	50.66		2,800,429	50.26		3,173,646	50.76	

(⁽¹⁾) Includes 485 members of the Royal Canadian Navy.

TABLE 8—SEX RATIOS OF THE POPULATIONS OF VARIOUS COUNTRIES IN RECENT YEARS.

Country	Year	Excess of Males over Females in each 100 Population	Country	Year	Excess of Males over Females in each 100 Population
Argentina.....	1928	6.57	Sweden.....	1930	-1.53
CANADA.....	{ 1931	3.59	Denmark.....	1930	-2.20
	1941	2.56	Italy.....	1931	-2.27
India.....	1931	3.07	Norway.....	1930	-2.63
New Zealand.....	1931	2.18	Finland.....	1920	-2.67
Australia.....	1931	1.88	Germany.....	1925	-3.14
Union of South Africa(⁽¹⁾)	1931	1.80	Northern Ireland.....	1926	-3.26
Irish Free State.....	1929	1.56	Poland.....	1921	-3.37
United States.....	1930	1.22	Switzerland.....	1930	-3.65
Japan.....	1930	0.51	Scotland.....	1931	-3.94
Bulgaria.....	1926	0.12	France.....	1926	-4.00
Netherlands.....	1930	-0.62	England and Wales.....	1931	-4.18
Greece.....	1928	-0.84	Austria.....	1920	-4.23
Belgium.....	1930	-0.96	U.S.S.R. (in Europe).....	1926	-4.89
Chile.....	1930	-0.98	Portugal.....	1930	-6.81
Spain.....	1930	-1.32			

NOTE: The minus sign (-) indicates a deficiency of males.

(⁽¹⁾) White population only.

TABLE 9—SEX DISTRIBUTION OF THE POPULATION OF CANADA, BY PROVINCES, 1871-1941.

Province or Territory	1871	1881	1891	1901	1911	1921	1931	1941
MALES								
Prince Edward Island.....	47,121	54,729	54,881	51,959	47,069	44,887	45,392	49,228
Nova Scotia.....	193,792	220,538	227,093	233,642	251,019	266,472	263,104	296,044
New Brunswick.....	145,888	164,119	163,739	168,639	179,867	197,351	208,620	234,097
Quebec.....	596,041	678,175	744,141	824,454	1,012,815	1,179,726	1,447,124	1,672,982
Ontario.....	828,590	978,554	1,069,487	1,096,640	1,301,272	1,481,890	1,748,844	1,921,201
Manitoba.....	12,864	35,123	84,342	138,504	252,954	320,567	368,065	378,079
Saskatchewan.....	—	—	—	49,431	291,730	413,700	499,935	477,563
Alberta.....	—	—	—	41,019	223,792	324,208	400,199	426,458
British Columbia.....	20,694	29,503	63,003	114,160	251,619	293,409	385,219	435,031
Yukon.....	—	—	—	23,084	6,508	2,819	2,825	3,153
Northwest Territories.....	24,274	28,113	53,785	10,176	3,350	4,129	5,214	6,700
CANADA.....	1,869,264	2,188,854	2,460,471	2,751,708	3,821,995	4,529,643 ⁽¹⁾	5,374,541	5,900,536
FEMALES								
Prince Edward Island.....	46,900	54,162	54,197	51,300	46,659	43,728	42,646	45,819
Nova Scotia.....	194,008	220,034	223,303	225,932	241,319	257,365	249,742	281,918
New Brunswick.....	139,706	157,114	157,524	162,481	172,022	190,525	199,599	223,304
Quebec.....	595,475	680,852	744,394	824,444	992,961	1,180,939	1,427,131	1,658,900
Ontario.....	792,261	948,368	1,044,834	1,086,307	1,226,020	1,451,772	1,682,839	1,866,454
Manitoba.....	12,364	27,137	68,164	116,707	208,440	289,551	332,074	351,665
Saskatchewan.....	—	—	—	41,848	200,702	342,810	421,850	418,429
Alberta.....	—	—	—	32,003	150,503	264,246	331,406	369,711
British Columbia.....	15,553	19,956	35,170	64,497	140,861	231,173	309,044	382,830
Yukon.....	—	—	—	4,135	2,004	1,338	1,405	1,761
Northwest Territories.....	23,726	28,333	45,182	9,953	3,157	3,859	4,509	5,328
CANADA.....	1,819,993	2,135,956	2,372,768	2,619,607	3,384,648	4,258,306	5,002,245	5,606,119

(1) Includes 485 members of the Royal Canadian Navy.

TABLE 10—AGE STATUS OF THE POPULATION OF CANADA BY SEX DISTRIBUTION, 1921, 1931, 1941.

Age Period	MALES			FEMALES			TOTAL		
	1921	1931	1941 ⁽²⁾	1921	1931	1941 ⁽²⁾	1921	1931	1941 ⁽²⁾
Under 1 year.....	105,941	102,930	(1)	103,725	99,738	(1)	209,666	202,668	(1)
1 year.....	104,562	102,879	(1)	103,209	101,486	(1)	207,771	204,365	(1)
2 years.....	105,801	111,910	(1)	104,144	109,668	(1)	209,945	221,578	(1)
3 years.....	108,415	113,021	(1)	106,203	111,110	(1)	214,618	224,131	(1)
4 years.....	108,671	112,432	(1)	106,878	109,241	(1)	215,549	221,673	(1)
5 to 9 years.....	528,663	572,507	529,199	520,031	560,242	516,835	1,048,694	1,132,749	1,046,034
10 to 14 years.....	461,282	542,930	556,454	451,805	531,121	544,571	913,087	1,074,051	1,101,025
15 to 19 years.....	403,235	525,250	565,321	398,545	514,341	554,863	801,780	1,039,591	1,120,184
20 to 24 years.....	350,971	463,722	517,916	360,198	447,463	514,447	711,169	911,185	1,032,363
25 to 29 years.....	347,622	409,976	488,212	338,852	376,305	478,611	686,474	786,281	966,823
30 to 34 years.....	343,237	368,135	431,501	309,608	340,701	412,270	652,845	708,836	843,771
35 to 39 years.....	342,300	359,081	396,380	290,066	329,382	363,121	632,366	688,463	759,501
40 to 44 years.....	286,451	347,763	348,689	240,651	298,336	327,928	527,102	646,099	676,617
45 to 49 years.....	236,884	321,513	332,488	198,129	263,698	302,670	435,013	585,211	635,158
50 to 54 years.....	195,133	267,332	315,839	166,811	221,349	275,854	361,944	488,681	591,693
55 to 59 years.....	148,133	199,160	275,218	132,163	167,865	231,631	280,296	367,025	506,849
60 to 64 years.....	126,397	156,912	218,534	112,881	137,685	188,564	239,278	294,597	407,098
65 to 69 years.....	90,615	120,695	162,474	81,381	110,439	145,181	171,996	231,134	307,655
70 to 74 years.....	60,579	88,581	111,119	56,846	83,019	105,929	117,425	171,600	217,048
75 to 79 years.....	35,583	50,017	67,194	35,767	48,612	68,480	71,350	98,629	135,674
80 to 84 years.....	18,136	23,877	34,084	19,465	25,294	37,437	37,601	49,171	71,521
85 to 89 years.....	7,142	8,665	12,623	8,236	10,464	15,015	15,378	19,129	27,638
90 to 94 years.....	1,800	2,051	2,801	2,380	2,881	3,936	4,180	4,932	6,737
95 years and over.....	502	491	531	658	745	872	1,160	1,236	1,403
Not given.....	11,588	2,711	—	9,674	1,060	—	21,262	3,771	—
TOTAL.....	4,529,643	5,374,541	5,900,536	4,258,306	5,002,245	5,606,119	8,787,949	10,376,786	11,506,655

(1) Not yet available for 1941.

(2) Final distribution not available for Northwest Territories. The distribution of the 12,028 in the Northwest Territories is estimated.

TABLE 11 — MARITAL STATUS OF THE POPULATION OF CANADA, BY SEX DISTRIBUTION, 1871-1941.

Census year and sex	Single	Married	Widowed	Divorced ⁽²⁾	Not given	Total
1871 ⁽¹⁾ — Male.....	1,183,787	543,037	37,487	—	—	1,764,311
Female.....	1,099,216	542,339	79,895	—	—	1,721,450
1881 — Male.....	1,447,415	690,544	50,895	—	—	2,188,854
Female.....	1,336,981	689,540	109,435	—	—	2,135,956
1891 — Male.....	1,601,541	796,153	62,777	—	—	2,460,471
Female.....	1,451,851	791,902	129,015	—	—	2,372,768
1901 — Male.....	1,748,582	928,952	73,837	337	—	2,751,708
Female.....	1,564,011	904,091	151,181	324	—	2,619,607
1911 — Male.....	2,369,766	1,331,853	89,154	2,125	29,097	3,821,995
Female.....	1,941,886	1,251,468	179,656	2,275	9,363	3,384,648
1921 — Male.....	2,698,564	1,698,297	119,695	3,670	9,417	4,529,643
Female.....	2,378,728	1,631,663	236,504	3,731	7,680	4,258,306
1931 — Male.....	3,179,444	2,033,240	148,954	4,049 ⁽³⁾	8,854	5,374,541
Female.....	2,771,968	1,937,950	288,641	3,392 ⁽³⁾	294	5,002,245
1941 — Male.....	3,318,849	2,361,085	170,539	42,754	609	5,900,536 ⁽⁴⁾
Female.....	2,904,994	2,290,267	354,017	51,391	122	5,606,119 ⁽⁴⁾

⁽¹⁾ The figures for 1871 cover the four original provinces of Canada only.⁽²⁾ Legally separated included with divorced.⁽³⁾ Legally separated included with married.⁽⁴⁾ Including 6,700 males and 5,328 females in Northwest Territories, final distribution for marital status not available.

TABLE 12 — POPULATION OF CANADA BY PROVINCES, 1926-1940.

Year	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
1926.....	9,439,000	87,000	515,000	396,000	2,603,000	3,164,000	639,000	821,000	608,000	606,000
1927.....	9,624,000	87,000	515,000	398,000	2,657,000	3,219,000	651,000	841,000	633,000	623,000
1928.....	9,822,000	88,000	515,000	401,000	2,715,000	3,278,000	664,000	862,000	658,000	641,000
1929.....	10,016,000	88,000	515,000	404,000	2,772,000	3,334,000	677,000	883,000	684,000	659,000
1930.....	10,195,000	88,000	514,000	406,000	2,825,000	3,386,000	689,000	903,000	708,000	676,000
1931.....	10,362,833	88,038	512,846	408,219	2,874,255	3,431,683	700,139	921,785	731,605	694,263
1932.....	10,492,000	89,000	519,000	413,000	2,910,000	3,475,000	709,000	933,000	740,000	704,000
1933.....	10,667,000	89,000	522,000	420,000	2,970,000	3,564,000	710,000	932,000	748,000	712,000
1934.....	10,810,000	89,000	525,000	425,000	3,018,000	3,629,000	711,000	932,000	756,000	725,000
1935.....	10,921,000	89,000	527,000	429,000	3,062,000	3,673,000	711,000	931,000	764,000	735,000
1936.....	11,014,000	92,000	537,000	435,000	3,096,000	3,689,000	711,000	931,000	773,000	750,000
1937.....	11,106,000	93,000	542,000	440,000	3,135,000	3,711,000	717,000	939,000	778,000	751,000
1938.....	11,195,000	94,000	548,000	445,000	3,172,000	3,731,000	720,000	941,000	783,000	761,000
1939.....	11,301,000	95,000	554,000	451,000	3,210,000	3,752,000	727,000	949,000	789,000	774,000
1940.....	11,371,000	94,000	562,000	452,000	3,257,000	3,763,000	728,000	930,000	790,000	795,000

NOTE: Populations for 1931 are Census figures, those for Manitoba, Saskatchewan and Alberta for 1926 and 1936 are based on the Census of the Prairie Provinces and remaining figures are estimates to the nearest thousand.

CHAPTER III

Natural Increase

The population of a community cannot be determined, with any degree of accuracy, except by enumeration of the individuals residing within its geographical limits at a given date. In Canada as in most countries of modern European civilization, "Census taking" for the country as a whole is undertaken once every 10 years, while in some specific communities, such as the Prairie Provinces of Canada, a quinquennial Census is taken. In order to measure the growth of the population during the intercensal years, it is necessary to depend upon estimates. There are several methods of estimating intercensal populations but none have proven entirely satisfactory under all circumstances. In the computation of intercensal estimates for Canada, the Dominion Bureau of Statistics utilizes several known factors such as births, deaths, marriages, school attendance, immigration and emigration, in addition to the use of mathematical calculations and the correlation of trends. However, recent changes in the population trends have made estimation work increasingly difficult. (See also Chapter II).

The population in a community may be increased in one of two ways: (1) by the natural increase, the excess of births over deaths or (2) by the mobile increase, the excess of immigration over emigration. The growth of the total world population is of course dependent solely upon the balance of births and deaths.

Since the era of discovery, immigration has been an important factor in the growth of the Americas, the South African countries, and the Antipodes. On the other hand, some European countries have suffered a continuous diminution of population by reason of extensive emigration. During recent years, however, immigration to the United States and Canada from other countries has been checked to some extent by changes in the immigration laws and the establishment of "Quotas".

On the other hand, the enormous increase in transportation facilities has brought about a greater mobility of population within the North American countries. Migrations alter the distribution of the people within a country but do not affect the net population growth in point of added numbers. Interprovincial migrations are extremely difficult to assess and actually cannot be determined except by population enumeration. Upon the Social Analysis Branch of the Dominion Bureau of Statistics rests the responsibility of computing intercensal population estimates which form the basis for general use in

the construction of "per capita" and other computations. In this way the accuracy factor of comparability is maintained.

In so far as the vital statistics section of this study is concerned, migration will be ignored as a factor in population growth. However, the growth of population by natural increase is of paramount importance because to the public health worker it represents the "balance" as between the "credits" (births) and "debits" (deaths), in the "bookkeeping" of human life. To some extent the natural increase in a community provides a yard-stick of the public health programme, particularly with respect to the application of preventive measures for decreasing the general death rate. The rate of natural increase is usually expressed annually, and is the difference between the birth rate and the death rate, applied to every thousand persons in the population. (See Chart 6)

INTERNATIONAL COMPARISONS. — Table 13 presents the Canadian rates of natural increase for the years 1935, 1936 and 1937, as compared with those of forty-two countries. The table reveals that among the countries selected, Canada's ranking position has been fourteenth, nineteenth and seventeenth during these years, indicating that although Canada in this respect compares quite favourably with most European countries and in particular with the other nations of the British Commonwealth, there is still abundant need for improvement.

The rate of natural increase per thousand population for England and Wales during the 1890's averaged 11.8 and remained stationary during the first decade of the present century. During the second decade the rate had declined to 8.2; in the third decade it had further declined to 6.2 and during the fourth decade, to 2.7. In Scotland, the average natural increase rate for the two decades from 1891 to 1910 remained stationary at 11.8; from 1911 to 1920 it was 8.7; from 1921 to 1930 it was 7.7; and by 1931 to 1940 it had declined to 4.6. In the United States the annual natural increase rates in the population for the years 1933 to 1940 were:

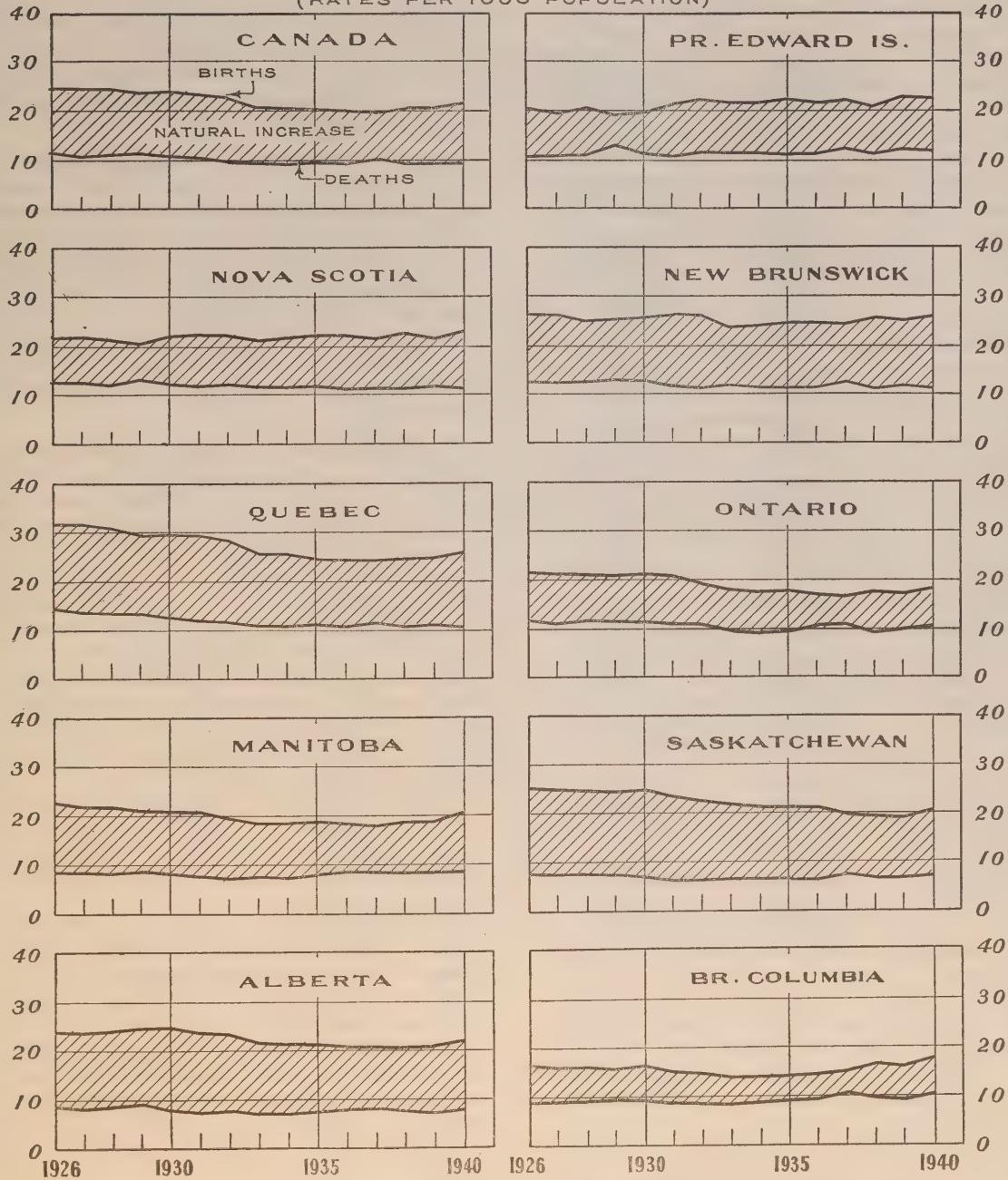
NATURAL INCREASE RATE — UNITED STATES⁽¹⁾

Year	Rate	Year	Rate
1933.....	5.9	1937.....	5.8
1934.....	6.1	1938.....	7.0
1935.....	6.0	1939.....	6.7
1936.....	5.1	1940.....	7.2

(1) 48 States reporting.

Chart 6

BIRTH RATES, DEATH RATES AND RATES
OF
NATURAL INCREASE
CANADA AND ITS PROVINCES
1926-1940
(RATES PER 1000 POPULATION)



The experience of England and Wales and Scotland expresses generally the trend of natural increase in the world population.

The figures in Table 14 show the excess of births over deaths and the crude rate of natural increase for Canada by provinces from 1926 to 1940. In keeping with a similar decline in the birth rate, the rate of natural increase of the population of Canada has declined during recent years. On the other hand the natural increase decline has been offset to some extent by a corresponding decline in the death rate. At the beginning of the review period, the rate of natural increase was 13.3 per thousand of population, declining by 1940 to 11.7. The rate tended to fluctuate during the 15 years with peaks of 13.4; 13.2 and 13.1 in 1927, 1930 and 1931 respectively, and with a low point of 9.6 in 1937. An improvement in the rate is apparent in 1938, 1939 and 1940.

The total natural increase in the population of Canada from 1926 to 1940 was 1,857,998, representing an annual average increase of 123,867 persons. During the review period there were 1,780,641 male births and 1,687,561 female births, or a total of 3,468,202 births, as against a total of 1,610,204 deaths reported during the same period, of which 871,550 were male and 738,654 female deaths. There were then, 909,091 males and 948,907 females added to the population of Canada during the 15 year period by natural increase or a net addition of 39,816 in favour of the female sex.

Chart 6 shows the trends of natural increase for Canada, by provinces. It reveals that the provinces generally follow the experience of Canada. The province of Quebec has been generally regarded as having one of the highest rates of natural increase per thousand population of any area of European civilization and particularly among the Canadian provinces. In fact, Quebec showed the greatest improvement in the natural increase for the period since 1926. The rate for Quebec in 1926 was 17.3 and while it was gradually reduced in line with common experience to a low point of 12.8 in 1937, the rate recovered somewhat and stood at 15.7 in 1940. Saskatchewan has usually approached Quebec in the matter of natural increase and for the years 1926 to 1930, 1934 and 1935 the rates for this Prairie Province actually exceeded those of Quebec, although for later years the rates of natural increase have been lower. Alberta and Manitoba with somewhat lower rates of increase have followed the Saskatchewan trend fairly closely. In the case of the three Prairie Provinces, particularly Saskatchewan and Alberta, the high rates of natural increase are due to their relatively younger population and their lower crude

death rates. In the case of New Brunswick, an abnormally high birth rate, offset by a high death rate, has resulted in an average rate of natural increase for that province. Ontario, during the fifteen years 1926 to 1940, recorded a fairly low rate of natural increase. The trend has been generally downward with minor annual fluctuations and a tendency towards recovery during the years 1938 to 1940. It is interesting to note that although Ontario's rates have been slightly higher, its natural increase trend during the review period has been almost parallel to that of British Columbia.

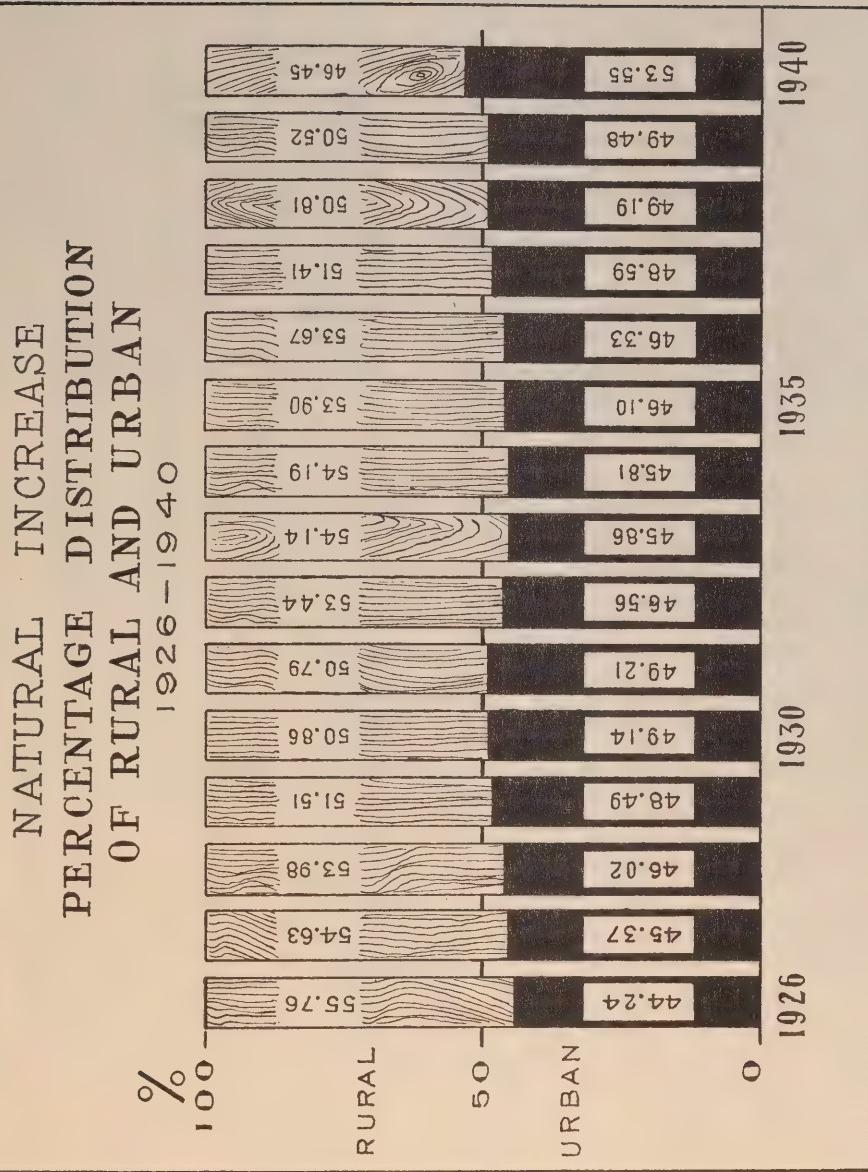
British Columbia has recorded consistently the lowest rate of natural increase in the Dominion, although during the last three years of the review period, there is evidence of a decided tendency towards recovery. In 1926 the rate for British Columbia per thousand population was 7.6. In 1928 the rate stood at 7.0 declining sharply to 4.3 in 1935; and standing at 4.5 in 1936 and 4.4 in 1937. In 1938 the rate recovered with equal sharpness to 6.6, dropped back slightly to 6.3 in 1939 and recovering again in 1940 to 6.9.

One known factor in British Columbia's low birth and natural increase rates, has been an under-registration of births within certain racial groups residing in the province. A recovery in these rates was coincidental with the settlement of two of the major racial under-registration problems in British Columbia and while it is not suggested that this settlement was wholly responsible for either the low rates or the recent apparent increases, it had no doubt an appreciable effect upon both the birth and natural increase rates. Another adverse factor in British Columbia's low birth rate is of course the ageing of the population. The high rates of natural increase for Quebec, New Brunswick, and the Prairie Provinces have been responsible for raising the average for Canada to a fairly high position in order of rank among present day rates of natural increase, in spite of British Columbia's consistently low rate.

URBAN¹ AND RURAL DISTRIBUTION. — The figures in Table 15 show the rural and urban distribution of the total natural increase of Canada, by provinces from 1926 to 1940, and Chart 7 shows the percentage distribution of the natural increase as between rural and urban for the entire country for the same period. It will be seen that 55.76 per cent of the natural increase of Canada in 1926 was in the rural areas; that by 1931 the rural percentage had decreased to 50.79; by 1934 it had increased to 54.19;

¹ Urban is here defined on the Vital Statistics standard, i.e. population in all centres of over 1,000 population in 1931.

Chart 7



while in 1940, 53.55 per cent of the natural increase was in the urban areas.

Collectively the table and chart reflect the tendency of people to migrate into industrial (urban) areas during periods of economic prosperity and to move from these areas in times of economic depression. This explains the rising trend of natural increase in urban centres up to 1931, there being a lag between the onslaught of the depression (1929) and the movement of population. Similarly the upward movement in the percentage of natural increase in urban areas since 1935 is the result of industrial activity arising out of rearmament and war. The remarkable increase in 1940 demonstrates the very dramatic drain of population from rural areas brought about by the total war effort.

The primary object of Table 16 is to show by five year averages the natural increases between 1926 and 1940, in the principal cities and towns of Canada. The municipal units are grouped according to size,

based on the 1931 Census figures, as follows:

over 40,000 population

between—

20,000 and 40,000 population

10,000 and 20,000 population

5,000 and 10,000 population

1,000 and 5,000 population

Finally then, in the absence of immigration and in the light of the rapidly declining birth rate, it would appear that: in order to bring about a greater natural increase of population in Canada it is essential that all state authorities must endeavour to salvage some of the nation's death loss, particularly in the younger age groups. The objective of subsequent chapters in the Vital Statistics section of this study is to focus the factual spotlight upon some of the causes of premature deaths among young Canadians, and to illustrate how, in some measure, by the promotion of health and the prevention of disease, the physical well-being of the population of Canada may be improved.

TABLE 13 — RATES OF NATURAL INCREASE PER 1,000 OF POPULATION IN VARIOUS COUNTRIES OF THE WORLD,
1935, 1936 AND 1937.

Country	1935	1936	1937	Country	1935	1936	1937
Costa Rica.....	21.4	23.0	24.0	New Zealand.....	7.9	7.8	8.2
Palestine.....	26.6	28.8	22.7	Australia.....	7.1	7.7	8.0
Straits Settlements.....	16.7	19.4	19.6	Denmark.....	6.6	6.8	7.2
Jamaica.....	15.8	15.0	16.8	Germany.....	7.1	7.2	7.1
Egypt.....	14.3	14.5	16.3	Finland.....	6.5	5.0	6.6
Ceylon.....	-2.2	12.3	16.1	Hungary.....	5.9	6.1	6.0
Union of South Africa (whites).....	13.7	14.6	14.8	United States (Reg. Area).....	6.0	5.2	5.8
Japan.....	14.8	12.4	13.6	Northern Ireland.....	4.8	5.8	4.7
British India.....	11.3	12.8	12.1	Norway.....	4.0	4.2	4.7
Argentina.....	12.1	12.6	12.1	Ire.....	5.6	5.2	3.9
Roumania.....	9.6	11.7	11.5	Czechoslovakia.....	4.4	4.1	3.9
Newfoundland and Labrador.....	9.0	12.2	11.5	Scotland.....	4.6	4.5	3.7
Greece.....	13.4	12.9	11.2	Switzerland.....	3.9	4.2	3.7
Netherlands.....	11.5	11.5	11.0	Latvia.....	3.4	4.0	3.4
Poland.....	12.1	12.0	10.9	British Isles.....	3.3	3.0	2.7
Bulgaria.....	11.8	11.5	10.5	England and Wales.....	3.0	2.7	2.5
CANADA.....	10.6	10.3	9.6	Sweden.....	2.1	2.2	2.3
Chile.....	9.1	9.3	9.5	Belgium.....	2.6	2.4	2.2
Uruguay.....	9.8	10.1	9.5	Estonia.....	1.0	0.5	1.4
Iceland.....	9.9	11.2	9.2	France.....	-0.5	-0.3	-0.3
Lithuania.....	9.4	10.8	9.1	Austria.....	-0.4	-0.1	-0.6
Italy.....	9.4	8.7	8.7				

TABLE 14 — NATURAL INCREASE AND CRUDE RATE PER 1,000 POPULATION IN CANADA, BY PROVINCES, 1926-40.

Year	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
EXCESS OF BIRTHS OVER DEATHS										
1926.....	125,296	854	4,614	5,338	44,914	31,708	9,326	14,656	9,297	4,589
1927.....	128,896	784	4,756	5,577	46,889	32,896	8,838	14,984	9,838	4,334
1928.....	127,700	854	4,729	5,075	46,989	31,382	9,108	15,095	9,993	4,475
1929.....	121,900	548	4,028	5,005	44,159	30,335	8,428	14,731	10,685	3,981
1930.....	134,189	788	5,140	5,543	47,680	33,950	8,726	15,742	12,153	4,467
1931.....	135,956	967	5,647	6,157	49,119	33,504	9,057	15,265	11,950	4,290
1932.....	131,289	976	5,470	6,256	49,128	30,373	8,783	14,770	11,469	4,064
1933.....	120,900	914	5,119	5,129	45,284	28,345	7,849	14,121	10,777	3,362
1934.....	119,721	910	5,379	5,499	44,503	27,115	8,141	13,840	10,899	3,435
1935.....	115,884	1,035	5,453	5,609	42,428	26,752	7,554	13,443	10,454	3,156
1936.....	113,321	953	5,911	5,710	43,432	24,880	6,636	12,811	9,639	3,349
1937.....	106,411	947	5,489	5,147	40,179	23,170	6,818	11,713	9,642	3,306
1938.....	122,629	944	6,154	6,549	45,536	28,674	7,585	12,151	10,020	5,016
1939.....	120,517	995	5,501	6,204	46,233	26,593	7,426	12,028	10,681	4,856
1940.....	133,389	1,030	6,617	6,715	51,058	30,021	8,432	12,845	11,156	5,515
RATE PER 1,000 POPULATION										
1926.....	13.3	9.8	8.9	13.5	17.3	10.1	14.6	17.8	15.3	7.6
1927.....	13.4	9.0	9.2	14.0	17.7	10.2	13.5	17.8	15.5	7.0
1928.....	13.0	9.7	9.2	12.7	17.3	9.6	13.7	17.5	15.1	7.0
1929.....	12.2	6.2	7.9	12.4	16.0	9.1	12.4	16.7	15.6	6.0
1930.....	13.2	9.0	10.0	13.6	16.9	10.0	12.6	17.4	17.1	6.6
1931.....	13.1	10.9	11.0	15.1	17.1	9.8	12.9	16.5	16.4	6.2
1932.....	12.6	11.0	10.5	15.2	16.9	8.7	12.4	15.8	15.5	5.8
1933.....	11.3	10.3	9.8	12.2	15.2	8.0	11.0	15.1	14.5	4.8
1934.....	11.1	10.2	10.2	12.9	14.7	7.4	11.4	14.8	14.4	4.7
1935.....	10.6	11.6	10.3	13.1	13.9	7.3	10.7	14.4	13.7	4.3
1936.....	10.3	10.4	11.0	13.2	14.0	6.7	9.4	13.7	12.4	4.5
1937.....	9.6	10.2	10.2	11.7	12.8	6.2	9.5	12.5	12.4	4.4
1938.....	11.0	10.0	11.2	14.7	14.3	7.7	10.5	12.9	12.8	6.6
1939.....	10.7	10.5	9.9	13.7	14.4	7.1	10.2	12.6	13.6	6.3
1940.....	11.7	11.0	11.8	14.9	15.7	8.0	11.6	13.8	14.1	6.9

TABLE 15—RURAL AND URBAN DISTRIBUTION OF THE NATURAL INCREASE IN CANADA, BY PROVINCES, 1926 TO 1940.

	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
1926										
Rural.....	69,863	808	2,427	3,862	25,423	12,810	5,447	11,951	5,719	1,416
Urban.....	55,433	46	2,187	1,476	19,491	18,898	3,879	2,705	3,578	3,173
1927										
Rural.....	70,421	715	2,411	4,045	26,296	12,885	5,100	11,939	5,794	1,236
Urban.....	58,475	69	2,345	1,532	20,593	20,011	3,738	3,045	4,044	3,098
1928										
Rural.....	68,936	789	2,332	3,723	26,300	11,486	5,236	11,938	5,879	1,253
Urban.....	58,764	65	2,397	1,352	20,689	19,896	3,872	3,157	4,114	3,222
1929										
Rural.....	62,785	561	1,674	3,580	23,569	10,141	4,830	11,328	6,131	971
Urban.....	59,115	-13	2,354	1,425	20,590	20,194	3,598	3,403	4,554	3,010
1930										
Rural.....	68,242	672	2,294	3,748	25,660	11,248	4,810	11,780	6,961	1,069
Urban.....	65,947	116	2,846	1,795	22,020	22,702	3,916	3,962	5,192	3,398
1931										
Rural.....	69,049	814	2,430	4,364	26,185	11,172	5,012	11,426	6,535	1,111
Urban.....	66,907	153	3,217	1,793	22,934	22,332	4,045	3,839	5,415	3,179
1932										
Rural.....	70,163	792	2,417	4,524	27,337	10,526	5,010	11,630	6,753	1,174
Urban.....	61,126	184	3,063	1,732	21,791	19,847	3,773	3,140	4,716	2,890
1933										
Rural.....	65,459	783	2,324	3,854	25,173	10,065	4,450	11,158	6,641	1,011
Urban.....	55,441	131	2,795	1,275	20,111	18,280	3,399	2,963	4,136	2,351
1934										
Rural.....	64,877	757	2,430	3,968	24,628	9,808	4,771	10,830	6,731	954
Urban.....	54,844	153	2,949	1,531	19,875	17,307	3,370	3,010	4,168	2,481
1935										
Rural.....	62,465	864	2,290	3,986	24,468	9,129	4,462	10,376	6,026	864
Urban.....	53,419	171	3,163	1,623	17,960	17,623	3,092	3,067	4,428	2,292
1936										
Rural.....	60,824	768	2,426	4,031	25,363	7,878	3,840	9,873	5,597	1,048
Urban.....	52,497	185	3,485	1,679	18,069	17,002	2,796	2,938	4,042	2,301
1937										
Rural.....	54,706	774	2,032	3,668	23,827	6,428	3,681	8,620	5,070	606
Urban.....	51,705	173	3,457	1,479	16,352	16,742	3,137	3,093	4,572	2,700
1938										
Rural.....	62,302	749	2,187	4,535	27,702	7,720	4,154	8,735	5,119	1,401
Urban.....	60,327	195	3,967	2,014	17,834	20,954	3,431	3,416	4,901	3,615
1939										
Rural.....	60,888	762	1,839	4,279	28,490	6,581	3,934	8,348	5,367	1,288
Urban.....	59,629	233	3,662	1,925	17,743	20,012	3,492	3,680	5,314	3,568
1940										
Rural.....	61,964	696	2,081	4,364	29,216	6,463	4,091	8,619	5,247	1,187
Urban.....	71,425	334	4,536	2,351	21,842	23,558	4,341	4,226	5,909	4,328

TABLE 16 — NATURAL INCREASE IN THE PRINCIPAL CITIES AND TOWNS OF CANADA,
BY FIVE YEAR AVERAGES, 1926-40.

City or Town	Population		Excess of births over deaths			City or Town	Population		Excess of births over deaths						
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40		Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40				
	40,000 POPULATION AND OVER														
Montreal, Que.	818,577	903,007	8,945	9,194	8,278	Woodstock, Ont.	11,395	12,461	73	60	66				
Toronto, Ont.	631,207	667,457	5,475	4,890	3,331	St-Jean, Que.	11,256	13,646	204	170	132				
Vancouver, B.C.	246,593	275,353	1,601	1,056	1,197	Cornwall, Ont.	11,126	14,117	230	248	359				
Winnipeg, Man.	218,785	221,960	2,770	2,232	1,838	Joliette, Que.	10,765	12,749	174	157	121				
Hamilton, Ont.	155,547	166,337	1,568	1,467	1,307	Welland, Ont.	10,709	12,500	126	148	196				
Quebec, Que.	130,594	150,757	2,110	2,146	1,919	Thetford Mines, Que.	10,701	12,716	308	212	170				
Ottawa, Ont.	126,872	154,951	1,301	1,247	1,353	Granby, Que.	10,587	14,197	183	239	224				
Windsor, Ont.	98,179	105,311	1,826	1,200	1,270	Sorel, Que.	10,320	12,251	130	124	114				
Calgary, Alta.	83,761	88,904	1,050	965	867	Medicine Hat, Alta.	10,300	10,571	245	230	207				
Edmonton, Alta.	79,197	93,817	1,260	1,362	1,640	10,000 TO 20,000 POPULATION —Continued									
London, Ont.	71,148	78,264	292	359	466	5,000 TO 10,000 POPULATION									
Verdun, Que.	60,745	67,349	659	561	306	Prince Albert, Sask.	9,905	12,508	181	223	313				
Halifax, N.S.	59,275	70,488	573	732	877	Brockville, Ont.	9,736	11,342	52	81	104				
Regina, Sask.	53,209	58,245	887	802	767	Jonquière, Que.	9,448	13,769	387	345	380				
Saint John, N.B.	47,514	51,741	432	536	613	Pembroke, Ont.	9,368	11,159	130	139	118				
Saskatoon, Sask.	43,291	43,027	573	505	422	Dartmouth, N.S.	9,100	10,847	75	78	57				
20,000 TO 40,000 POPULATION															
Victoria, B.C.	39,082	44,068	165	136	124	St-Jérôme, Que.	8,967	11,329	213	186	169				
Trois-Rivières, Que.	35,450	42,007	773	577	538	New Glasgow, N.S.	8,858	9,210	148	215	300				
Kitchener, Ont.	30,793	35,657	451	405	402	Fredericton, N.B.	8,830	10,062	59	39	83				
Brantford, Ont.	30,107	31,948	300	265	221	Cap-de-la-Madeleine, Que.	8,748	11,961	278	211	210				
Hull, Que.	29,433	32,947	647	515	487	North Vancouver, B.C.	8,510	8,914	105	82	82				
Sherbrooke, Que.	28,933	35,965	336	310	Rivière-du-Loup, Que.	8,499	8,713	129	95	22					
Outremont, Que.	28,641	30,751	19	-66	Orillia, Ont.	8,183	9,798	99	114	121					
Fort William, Ont.	26,277	30,585	420	355	Waterloo, Ont.	8,095	9,025	73	43	-2					
St. Catharines, Ont.	24,753	30,275	279	306	Truro, N.S.	7,901	10,272	82	76	113					
Westmount, Que.	24,235	26,047	-33	64	La Tuque, Que.	7,871	7,919	204	190	186					
Kingston, Ont.	23,439	30,126	119	181	Barrie, Ont.	7,776	9,725	56	73	123					
Oshawa, Ont.	23,439	26,813	429	339	Sydney Mines, N.S.	7,769	8,198	125	130	119					
Sydney, N.S.	23,089	28,305	270	374	New Waterford, N.S.	7,745	9,302	156	222	202					
Sault Ste. Marie, Ont.	23,082	25,794	395	360	Trail, B.C.	7,573	9,392	123	177	287					
Peterborough, Ont.	22,327	25,350	271	253	Lindsay, Ont.	7,505	8,403	59	59	106					
Moose Jaw, Sask.	21,299	20,753	397	268	Amherst, N.S.	7,450	8,620	28	47	67					
Guelph, Ont.	21,075	23,273	160	117	New Toronto, Ont.	7,146	9,504	83	-33	-72					
Glace Bay, N.S.	20,706	25,147	378	445	Smiths Falls, Ont.	7,108	7,159	74	41	56					
Moncton, N.B.	20,689	22,763	266	249	Lauzon, Que.	7,084	7,877	135	107	82					
10,000 TO 20,000 POPULATION															
Port Arthur, Ont.	19,818	24,426	318	314	364	Yarmouth, N.S.	7,055	7,790	28	59	66				
Niagara Falls, Ont.	19,046	20,589	251	221	206	Midland, Ont.	6,920	6,800	100	105	106				
Lachine, Que.	18,630	20,051	228	212	Mimico, Ont.	6,800	8,070	63	96	79					
Sudbury, Ont.	18,518	32,203	283	562	Kenora, Ont.	6,766	7,745	125	123	160					
Sarnia, Ont.	18,191	18,734	209	189	Nanaimo, B.C.	6,745	6,635	107	61	57					
Stratford, Ont.	17,742	17,038	184	141	Eastview, Ont.	6,686	7,966	128	125	125					
New Westminster, B.C.	17,524	21,967	252	271	Drummondville, Que.	6,609	10,555	194	224	165					
Brandon, Man.	17,082	17,383	146	78	Portage la Prairie, Man.	6,597	7,187	55	85	147					
St. Boniface, Man.	16,305	18,157	361	647	Campbellton, N.B.	6,505	6,748	145	130	145					
North Bay, Ont.	15,528	15,599	268	235	Port Coblonal, Ont.	6,503	6,993	109	88	49					
St. Thomas, Ont.	15,430	17,132	100	69	Grand'Mère, Que.	6,461	8,608	153	123	119					
Shawinigan Falls, Que.	15,345	20,325	459	413	Edmundston, N.B.	6,430	7,096	189	174	161					
Chatham, Ont.	14,569	17,369	185	181	Springhill, N.S.	6,355	7,170	125	123	150					
Timmins, Ont.	14,200	28,790	345	392	Prince Rupert, B.C.	6,350	6,714	63	55	55					
Galt, Ont.	14,006	15,346	105	109	Magog, Que.	6,302	9,034	126	150	164					
Belleville, Ont.	13,790	15,710	140	149	Preston, Ont.	6,280	6,704	56	32	21					
Lethbridge, Alta.	13,489	14,612	251	338	Trenton, Ont.	6,276	8,323	61	58	84					
St-Hyacinthe, Que.	13,448	17,798	45	59	Victoriaville, Que.	6,213	8,516	112	136	143					
Owen Sound, Ont.	12,839	14,002	171	138	Kamloops, B.C.	6,167	5,959	47	72	93					
Charlottetown, P.E.I.	12,361	14,821	23	99	North Sydney, N.S.	6,139	6,836	88	91	120					
Chicoutimi, Que.	11,877	16,040	325	284	St-Lambert, Que.	6,075	6,417	37	26	20					
Lévis, Que.	11,724	11,991	84	42	Nelson, B.C.	5,992	5,912	44	83	123					
Valleyfield, Que.	11,411	17,052	137	204	North Battleford, Sask.	5,986	4,745	161	160	206					
Note: The populations are based on the distribution as enumerated in the Census of 1931.															

(*) Figures not available.

TABLE 16 — NATURAL INCREASE IN THE PRINCIPAL CITIES AND TOWNS OF CANADA,
BY FIVE YEAR AVERAGES, 1926-40 — Continued.

City or Town	Population		Excess of births over deaths			City or Town	Population		Excess of births over deaths		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40		Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40
	5,000 TO 10,000 POPULATION — Continued						1,000 TO 5,000 POPULATION — Continued				
Collingwood, Ont.	5,809	6,270	17	25	53	Picton, Ont.	3,580	3,901	19	42	82
Transcona, Man.	5,747	5,495	67	27	-1	East Angus, Que.	3,566	3,501	98	81	45
Rimouski, Que.	5,589	7,009	129	97	67	Parry Sound, Ont.	3,512	5,765	87	111	158
Brampton, Ont.	5,532	6,020	62	96	121	Napanee, Ont.	3,497	3,405	1	8	4
Fort Francis, Ont.	5,470	5,897	120	85	103	St. Stephen, N.B.	3,437	3,306	62	56	124
Longueuil, Que.	5,407	7,087	78	57	28	Dunville, Ont.	3,405	4,028	35	24	41
St-Laurent, Que.	5,348	6,242	57	65	25	Tillsonburg, Ont.	3,385	4,002	30	46	133
Renfrew, Ont.	5,296	5,511	77	87	82	Newcastle, N.B.	3,383	3,781	54	51	80
Swift Current, Sask.	5,296	5,594	96	105	160	Bathurst, N.B.	3,300	3,554	69	59	108
Ingersoll, Ont.	5,233	5,782	40	43	64	Ste-Thérèse, Que.	3,292	4,659	82	35	39
Simcoe, Ont.	5,226	6,037	106	132	201	Bridgewater, N.S.	3,262	3,445	16	5	36
Hawkesbury, Ont.	5,177	6,263	111	97	137	Woodstock, N.B.	3,259	3,593	-7	14	41
Thorold, Ont.	5,092	5,305	64	29	22	Beauport, Que.	3,242	3,725	(1)	72	41
Whitby, Ont.	5,046	5,904	-109	-107	-139	Rouyn, Que.	3,225	8,808	(1)	107	193
Yorkton, Sask.	5,027	5,577	91	95	170	Montreal W., Que.	3,190	3,474	-4	-10	-17
Dundas, Ont.	5,026	5,276	7	-16	-35	CopperCliff, Ont.	3,173	3,732	46	51	15
Stellarton, N.S.	5,002	5,351	27	21	-4	Pictou, N.S.	3,152	3,069	4	13	13
Weyburn, Sask.	5,002	6,179	16	-13	-19	Hanover, Ont.	3,077	3,290	27	29	32
1,000 TO 5,000 POPULATION											
Leamington, Ont.	4,902	5,858	40	43	120	Cranbrook, B.C.	3,067	2,568	69	21	-9
Port Hope, Ont.	4,723	5,055	31	20	41	Burlington, Ont.	3,046	3,815	7	6	-1
Weston, Ont.	4,723	5,740	-109	42	81	Kentville, N.S.	3,033	3,928	1	-9	13
Kelowna, B.C.	4,655	5,118	91	114	158	Windsor, N.S.	3,032	3,436	38	42	76
Buckingham, Que.	4,638	4,516	84	83	84	Drumheller, Alta.	2,987	2,748	210	207	178
Montreal N., Que.	4,519	6,152	53	64	49	Prescott, Ont.	2,984	3,223	6	4	-5
Kenogami, Que.	4,500	6,579	220	166	178	Pointe-aux-Trembles, Que.	2,970	4,314	34	16	-75
Goderich, Ont.	4,491	4,557	21	12	24	Strathroy, Ont.	2,964	3,016	18	6	34
Selkirk, Man.	4,486	4,915	30	57	74	Ste-Agathe-des-Monts, Que.	2,949	3,308	23	16	38
Riverside, Ont.	4,432	4,878	79	51	28	Estevan, Sask.	2,936	2,774	60	52	69
Wallaceburg, Ont.	4,326	4,986	58	49	34	Inverness, N.S.	2,900	2,975	32	75	98
Sturgeon Falls, Ont.	4,234	4,576	147	114	109	New Liskeard, Ont.	2,880	3,019	83	62	46
Farnham, Que.	4,205	4,055	49	44	26	Nicolet, Que.	2,868	3,751	—	-6	7
St-Pierre, Que.	4,185	4,061	62	52	33	Rossland, B.C.	2,848	3,657	31	43	71
Paris, Ont.	4,137	4,637	34	28	38	Dominion, N.S.	2,846	3,279	14	11	17
Carleton Place, Ont.	4,105	4,305	23	15	-2	Aylmer, Que.	2,835	3,115	47	38	37
Perth, Ont.	4,099	4,458	39	57	69	Huntsville, Ont.	2,817	2,800	58	44	53
Bowmanville, Ont.	4,080	4,113	57	49	62	Haileybury, Ont.	2,813	2,268	49	15	4
Pointe-Claire, Que.	4,058	4,536	32	22	5	Blind River, Ont.	2,805	2,619	53	84	77
Coaticook, Que.	4,044	4,414	71	60	58	Iberville, Que.	2,778	3,454	55	48	46
Penetanguishene, Ont.	4,035	4,521	60	51	56	Laprairie, Que.	2,774	2,936	46	39	22
The Pas, Man.	4,030	3,181	38	65	59	Roberval, Que.	2,770	3,220	102	62	41
Arnprior, Ont.	4,023	3,895	54	40	21	Amherstburg, Ont.	2,759	2,853	16	19	11
Chatham, N.B.	4,017	4,082	63	54	73	Hespeler, Ont.	2,752	3,058	20	13	-1
Dalhousie, N.B.	3,974	4,508	40	107	86	Campbellford, Ont.	2,744	3,018	17	10	24
Dauphin, Man.	3,971	4,662	55	70	144	Revelstoke, B.C.	2,736	2,106	43	34	31
St-Joseph-d'Alma, Que.	3,970	6,449	(1)	196	222	Fernie, B.C.	2,732	2,545	45	30	28
Cochrane, Ont.	3,963	2,844	65	87	80	Lunenburg, N.S.	2,727	2,856	5	8	2
Westville, N.S.	3,946	4,115	37	9	-8	Windson, Que.	2,720	3,368	69	53	53
Vernon, B.C.	3,937	5,209	64	93	148	Laval-des-Rapides, Que.	2,716	3,242	8	2	-3
Montmagny, Que.	3,927	4,585	94	99	89	Listowel, Ont.	2,676	3,013	12	20	34
Mégantic, Que.	3,911	4,560	102	96	76	Liverpool, N.S.	2,669	3,170	10	53	79
Lachute, Que.	3,906	5,310	54	67	82	Donnacona, Que.	2,631	3,064	87	64	71
Melville, Sask.	3,891	4,011	77	71	72	Meaford, Ont.	2,624	2,662	8	15	29
Cobalt, Ont.	3,885	2,376	61	47	51	Orangeville, Ont.	2,614	2,718	6	14	36
Oakville, Ont.	3,857	4,115	20	31	12	Trenton, N.S.	2,613	2,699	30	20	8
Kapuskasing, Ont.	3,819	3,431	(1)	135	116	Richmond, Que.	2,596	3,082	38	17	20
St. Mary's, Ont.	3,802	3,635	17	6	-4	Petrolia, Ont.	2,596	2,801	20	21	64
Summerside, P.E.I.	3,759	5,034	32	60	71	Aurora, Ont.	2,587	2,726	6	-9	-16
Newmarket, Ont.	3,748	4,026	47	72	119	Merriton, Ont.	2,523	2,993	12	8	-2
Beauharnois, Que.	3,729	3,550	37	79	41	Prince George, B.C.	2,479	2,027	46	53	57
Gananoque, Ont.	3,592	4,044	41	26	44	Bagotville, Que.	2,468	3,248	116	70	88
						Kincardine, Ont.	2,465	2,507	31	-9	-19

(1) Population less than 1,000 in the Censuses of Canada for 1921 and 1931 and the Prairie Provinces for 1926 and 1936.

NOTE: The populations are based on the distribution as enumerated in the Census of 1931.

TABLE 16 — NATURAL INCREASE IN THE PRINCIPAL CITIES AND TOWNS OF CANADA,
BY FIVE YEAR AVERAGES, 1926-40 — Continued.

City or Town	Population		Excess of births over deaths			City or Town	Population		Excess of births over deaths		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40		Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40
	1,000 TO 5,000 POPULATION — Continued						1,000 TO 5,000 POPULATION — Continued				
Chilliwack, B.C.	2,461	3,675	62	73	-22	Durham, Ont.	1,750	1,700	21	24	23
Bracebridge, Ont.	2,436	2,341	44	36	48	Blenheim, Ont.	1,737	1,952	11	3	4
Berthier, Que.	2,431	2,634	46	47	39	Milltown, N.B.	1,735	1,876	-1	—	-8
Walkerton, Ont.	2,431	2,679	10	22	30	Coleman, Alta.	1,704	1,870	45	34	35
Ste-Anne-de-Bellevue, Que.	2,417	3,006	28	5	-7	Chesley, Ont.	1,699	1,701	12	13	19
Almonte, Ont.	2,415	2,543	63	68	80	Seaforth, Ont.	1,686	1,668	17	16	36
Biggar, Sask.	2,369	1,930	70	58	67	Capreol, Ont.	1,684	1,641	50	33	16
Louiseville, Que.	2,365	3,542	45	79	73	Minnedosa, Man.	1,680	1,636	30	32	57
La Salle, Que.	2,362	4,651	(1)	35	30	Courville, Que.	1,678	2,011	23	31	30
Port Alberni, B.C.	2,356	4,584	34	50	159	Cardston, Alta.	1,672	1,864	124	121	136
Red Deer, Alta.	2,344	2,924	63	60	95	Souris, Man.	1,661	1,346	36	29	34
Port Alfred, Que.	2,342	3,243	118	82	87	Ste-Rose, Que.	1,661	2,292	-3	12	6
Georgetown, Ont.	2,288	2,562	11	9	-2	Vegreville, Alta.	1,659	1,696	179	138	173
Aylmer, Ont.	2,283	2,478	-5	-10	-8	Thessalon, Ont.	1,632	1,316	32	42	36
Camrose, Alta.	2,258	2,598	78	82	137	Mattawa, Ont.	1,631	1,971	42	41	44
Sussex, N.B.	2,252	3,027	—	7	14	Blairmore, Alta.	1,629	1,731	23	22	15
Noranda, Que.	2,246	4,576	(1)	87	134	Huntingdon, Que.	1,619	1,952	(1)	9	10
Montreal E., Que.	2,242	2,355	17	24	17	Greenfield Park, Que.	1,610	1,819	7	5	—
Sackville, N.B.	2,234	2,489	34	27	32	Arthabaska, Que.	1,608	1,883	13	8	-10
Grimsby, Ont.	2,198	2,331	(1)	14	30	Virden, Man.	1,590	1,619	44	32	38
Waterloo, Que.	2,192	3,173	32	46	36	Mitchell, Ont.	1,588	1,777	-5	-12	-16
Kingsville, Ont.	2,174	2,317	20	16	15	L'Assomption, Que.	1,576	1,829	16	29	17
Mount-Royal, Que.	2,174	4,888	(1)	—	-4	Canso, N.S.	1,575	1,418	21	9	18
Elmira, Ont.	2,170	2,012	(1)	9	-9	Bedford, Que.	1,570	1,697	26	34	22
Black Lake, Que.	2,167	2,276	50	39	60	Grand Falls, N.B.	1,556	1,806	43	31	27
Amos, Que.	2,153	2,862	(1)	97	98	Rosetown, Sask.	1,553	1,470	(1)	92	90
Tecumseh, Ont.	2,129	2,412	(1)	43	34	Edson, Alta.	1,547	1,499	39	48	67
Wetaskiwin, Alta.	2,125	2,318	62	75	136	Palmerston, Ont.	1,543	1,418	14	15	14
Rockland, Ont.	2,118	2,040	56	24	29	Dresden, Ont.	1,529	1,662	-2	1	-1
Sioux Lookout, Ont.	2,088	1,756	37	42	47	St-Michel-de-Laval, Que.	1,528	2,956	(1)	40	40
Kamsack, Sask.	2,087	1,792	29	37	30	Bromptonville, Que.	1,527	1,672	70	48	33
Dorval, Que.	2,052	2,048	13	3	-1	Marysville, N.B.	1,512	1,651	18	18	10
Dolbeau, Que.	2,032	2,847	(1)	103	92	Hanna, Alta.	1,490	1,622	94	75	75
Alexandria, Ont.	2,006	2,175	26	21	26	Southampton, Ont.	1,489	1,600	11	10	7
Tilbury, Ont.	1,992	2,155	22	20	12	Forest, Ont.	1,480	1,570	-11	-4	-5
Marieville, Que.	1,986	2,394	24	21	1	Deseronto, Ont.	1,476	1,261	3	1	-3
Devon, N.B.	1,977	2,337	15	19	21	Iroquois Falls, Ont.	1,476	1,302	46	36	44
St-Tite, Que.	1,969	2,385	81	60	53	Shelburne, N.S.	1,474	1,605	10	16	21
Wingham, Ont.	1,959	2,030	19	21	37	Grande Prairie, Alta.	1,464	1,724	(1)	108	134
Terrebonne, Que.	1,955	2,209	27	19	26	High River, Alta.	1,459	1,430	78	75	90
Essex, Ont.	1,954	1,935	16	9	5	Assiniboia, Sask.	1,454	1,349	46	55	67
Ridgetown, Ont.	1,952	1,944	-2	-9	-5	Macleod, Alta.	1,447	1,912	30	21	20
Wiarton, Ont.	1,949	1,749	35	23	24	Ladysmith, B.C.	1,443	1,706	28	5	12
Lennoxville, Que.	1,927	2,150	—	-1	-3	Indian Head, Sask.	1,438	1,349	33	27	31
Parrsboro, N.S.	1,919	1,971	22	8	12	Beloeil, Que.	1,434	2,008	17	30	27
Neepawa, Man.	1,910	2,292	39	42	58	Keewatin, Ont.	1,422	1,481	17	1	-4
Humboldt, Sask.	1,899	1,767	57	10	2	Carman, Man.	1,418	1,455	54	60	87
Shediac, N.B.	1,883	2,147	10	20	2	Morden, Man.	1,416	1,427	48	45	43
Gravenhurst, Ont.	1,864	2,122	15	—	15	Digby, N.S.	1,412	1,657	11	33	58
Témiscamingue, Que.	1,855	2,168	(1)	40	47	Rosthern, Sask.	1,412	1,149	29	46	62
Raymond, Alta.	1,849	2,089	70	58	13	Rainy River, Ont.	1,402	1,205	26	31	59
Duncan, B.C.	1,843	2,189	62	71	139	Vankleek Hill, Ont.	1,380	1,435	16	14	12
Milton, Ont.	1,839	1,964	9	5	16	Alliston, Ont.	1,355	1,733	17	23	45
Trois-Pistoles, Que.	1,837	2,176	53	53	46	Dryden, Ont.	1,326	1,641	51	61	80
Wolfville, N.S.	1,818	1,944	5	43	77	Uxbridge, Ont.	1,325	1,406	(1)	-3	3
Quebec West, Que.	1,813	3,619	(1)	46	76	Port Coquitlam, B.C.	1,312	1,539	22	4	-4
Melfort, Sask.	1,809	2,005	70	64	86	Watrous, Sask.	1,303	1,138	20	13	12
Mount Forest, Ont.	1,801	1,892	9	5	23	Grand Forks, B.C.	1,298	1,259	9	12	18
Arvida, Que.	1,790	4,581	(1)	71	81	Harrison, Ont.	1,296	1,305	2	8	—
Clinton, Ont.	1,789	1,896	3	13	38	Merritt, B.C.	1,296	940	26	17	18
Antigonish, N.S.	1,764	2,157	18	48	107	Wedgeport, N.S.	1,294	1,327	19	17	13
Shaunavon, Sask.	1,761	1,603	93	87	73	Laurentides, Que.	1,284	1,342	38	15	10
Acton Vale, Que.	1,753	2,366	50	57	54	Taber, Alta.	1,279	1,331	48	48	12

(1) Population less than 1,000 in the Censuses of Canada for 1921 and 1931 and the Prairie Provinces for 1926 and 1936.

NOTE: The populations are based on the distribution as enumerated in the Census of 1931.

TABLE 16 — NATURAL INCREASE IN THE PRINCIPAL CITIES AND TOWNS OF CANADA,
BY FIVE YEAR AVERAGES, 1926-40 — Continued.

City or Town	Population		Excess of births over deaths			City or Town	Population		Excess of births over deaths		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40		Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40
	1,000 TO 5,000 POPULATION — Continued						1,000 TO 5,000 POPULATION — Continued				
Vermilion, Alta.	1,270	1,408	76	85	104	Moosomin, Sask.	1,119	1,096	22	12	16
Port Moody, B.C.	1,260	1,512	6	2	-3	Beverley, Alta.	1,111	981	(1)	7	(1)
Lacombe, Alta.	1,259	1,603	56	44	83	Little Current, Ont.	1,101	1,088	(1)	13	4
Niagara, Ont.	1,228	1,541	—	8	10	Rigaud, Que.	1,099	1,222	(1)	11	9
Magrath, Alta.	1,224	1,207	42	26	10	Battleford, Sask.	1,096	1,317	10	13	6
Wilkie, Sask.	1,222	1,232	(1)	72	81	St. George, N.B.	1,087	1,169	12	7	6
Courtenay, B.C.	1,219	1,737	(1)	-2	-6	Tisdale, Sask.	1,069	1,237	(1)	81	121
Stettler, Alta.	1,219	1,295	42	56	81	Châteauguay, Que.	1,067	1,425	(1)	13	13
Englehart, Ont.	1,210	1,262	(1)	62	79	Mahone Bay, N.S.	1,065	1,025	1	-3	-5
St. Andrews, N.B.	1,207	1,167	-2	-9	-8	Souris, P.E.I.	1,063	1,114	(1)	-1	11
Redcliffe, Alta.	1,192	1,111	(1)	8	(1)	Olds, Alta.	1,056	1,337	(1)	60	75
Scotstown, Que.	1,189	1,273	(1)	19	16	Wymyard, Sask.	1,042	1,080	(1)	11	22
Canora, Sask.	1,179	1,200	61	64	146	Kindersley, Sask.	1,037	990	(1)	50	34
Tuxedo, Man.	1,173	735	(1)	-1	-3	Stonewall, Man.	1,031	1,020	21	19	30
Montreal S., Que.	1,164	1,441	9	5	7	Parkhill, Ont.	1,030	947	-4	-4	-4
Claresholm, Alta.	1,156	1,265	(1)	28	36	Innisfail, Alta.	1,024	1,223	(1)	94	124
Dorion, Que.	1,155	1,292	(1)	19	17	Pincher Creek, Alta.	1,024	994	(1)	25	(1)
Maple Creek, Sask.	1,154	1,085	(1)	62	97	Stayner, Ont.	1,019	1,085	(1)	6	6
Cache Bay, Ont.	1,151	1,004	(1)	29	21	Port Hawkesbury, N.S.	1,011	1,031	(1)	3	-2
Sutherland, Sask.	1,148	888	(1)	1	(1)	Herbert, Sask.	1,009	875	(1)	31	(1)
Wainwright, Alta.	1,147	980	(1)	49	44	Radville, Sask.	1,005	813	(1)	14	(1)
Beausejour, Man.	1,139	1,161	(1)	10	13	Killarney, Man.	1,003	1,051	(1)	9	(1)
Gravelbourg, Sask.	1,137	1,130	33	34	Fort Saskatchewan, Alta.	1,001	903	(1)	22	(1)	
Oxford, N.S.	1,133	1,297	3	3	Joggins, N.S.	1,000	1,109	14	14	19	
Bridgetown, N.S.	1,126	1,020	7	6							

(1) Population less than 1,000 in the Censuses of Canada for 1921 and 1931 and the Prairie Provinces for 1926 and 1936.

NOTE: The populations are based on the distribution as enumerated in the Census of 1931.

Births

Registration of birth in most countries of modern European and American civilization has been used primarily as a means of personal identification, i.e., a legal record to establish the fact of birth. A birth certificate determines among other things, a citizen's right: to attend school; to secure industrial and other employment where the law prohibits employment under a certain age or the employment of foreign born; to marry; to hold public office; to receive pensions; to establish eligibility for military duty; to document families of enlisted men; and to exercise his or her right of franchise. These refer to the "legal aspects" of birth registration which establishes the date and place of birth, the parentage and legitimacy of the individual. From the statistical aspect, birth data are of interest mainly in ascertaining the quantitative measurement of population growth. An excess of births over deaths for any period measures the "natural increase" in a community.

Defective registration of birth is the principal source of error in modern birth statistics. The absence of complete birth registration makes it impracticable to assess correctly, for instance, the infant mortality of a community or to measure any other trends in which total number of births is the statistical basis of calculation.

In England and Wales, the failure to register births is almost negligible. As long ago as 1876, Dr. Farr estimated that for the previous thirty-nine years the deficiency in birth registration was not more than five per cent. In Canada, in 1931 under-registration was measured by birth registration checks with the Census enumeration. The deficiency for the country as a whole was found to be approximately five per cent. A further check is being conducted in connection with the 1941 Census and present indications are that there has been a decided improvement in Canadian birth registration during the last ten years. With an accurate knowledge of the error factor, it is a simple matter to measure the effect of under-registration upon the various rates. In the Vital Statistics section of this study, therefore, unless otherwise stated, the basis of rate calculation is the number of births registered in the provinces.

The age distribution of females of child-bearing age (16-49 years) in the population of a community has a direct influence upon the birth rates. The most productive years among the females among

races of the northern hemisphere, are those from 25 to 44.

Economic and social conditions within a country may greatly affect the national birth rate. The general trend in most countries is for poorer families to be more prolific than those in the higher economic brackets. Economic depression has a tendency to discourage and quite often delay marriage; likewise a rise in the standard of living of the population has a similar adverse effect upon the birth rate. Fewer or delayed marriages naturally implies fewer children.

Periods of relatively high employment and prosperity, on the other hand, cause marriage rates and subsequent birth rates to rise. Preparations for defence and the "lend-lease" agreements entered into with other countries by the United States, prior to Pearl Harbour, produced a high level of employment which in turn caused an increase in marriages and in births which were major factors in the population growth of that country. Passage of National Selective Service regulations for mobilization, both in this country and in the United States, resulted in sharp increases in the marriage rates and subsequently in similar sharp increases in the crude birth rates. Adversely, the present large scale military participation of both countries in the war, with so many of the male population removed from their communities of residence, may be expected to bring about a decline in the birth rate and the rate of natural increase, and thus depress the population growth.

Birth rates may be expressed in several ways. Crude birth rates are computed on the number of live births registered in the calendar year, per thousand enumerated or estimated persons in the population at a specified time (in Canada, June 1st). A second method of stating birth rates is in terms of the proportion which live births bear to the women living at child-bearing ages, while a third and still more accurate method is to sub-divide the legitimate and illegitimate births and to then state the ratio of the former to every 1,000 married females in the child-bearing ages, and the ratio of the latter group to every 1,000 unmarried women in the child-bearing ages (15 to 45 years). Both of these latter methods of calculation are generally referred to as "Age-specific birth rates". Crude birth rates will be utilized throughout the Vital Statistics section of this study, the primary objective of which is to measure the need for, and the problems involved in, extending public health services to the people of Canada.

INTERNATIONAL COMPARISONS. — Crude birth rates for various countries of the world, including Canada, are given in Table 17. It will be seen from the countries selected that while Canada's birth rate is comparatively high, yet in comparison with international birth rates for the three years under review (1935-36-37) her ranking position was twenty-second.

Throughout practically the whole civilized world the birth rate in the past generation has been on a steady decline. A consequent reduction in the rate of the natural increase, however, has been partly offset by a synchronous decline in the death rate. The crude birth rate of England and Wales for example, was 24.1 in 1913 and although it rose to 25.5 in 1920 it has fallen quite rapidly with minor fluctuations to 14.9 in 1939 and 14.6 in 1940. Similarly in France, the crude birth rate has declined from 21.3 in 1920 to 16.1 in 1934; 14.7 in 1937; 14.6 in 1938 and 1939. In Belgium the crude birth rate in 1921 was 22.0; by 1930 the rate had declined to 18.8; to 15.5 in 1935; to 15.3 in 1936; to 15.4 in 1937; to 15.8 in 1938; to 15.3 in 1939 and to 13.4 in 1940.

In recent years the rise of Nazi domination is reflected in the crude birth rates of Germany and Austria. In Germany the crude rate in 1920 was 25.9. The rate declined sharply to 20.8 in 1925; 17.6 in 1930; and by 1933 the rate had fallen to 14.7. Since 1934 a pronounced recovery has been apparent as in 1937 the rate had increased to 18.8; in 1938 to 19.6; in 1939 to 20.3 and in 1940 to 20.0. The crude rate for Austria in 1920 stood at 22.7; by 1925 it had declined to 20.5 and by 1930 to 16.8. In 1937 Austria established probably the lowest birth rate on record for any country in modern times, that of 12.8. In 1938 the rate recovered slightly to 14.1 and then in 1939 jumped to 20.9 and to 21.8 in 1940; during these last three years the country was definitely under direct German domination.

The other axis partner—Italy—while reflecting a downward trend similar to that of general world experience, has within statistical knowledge always maintained a consistently high birth rate. In 1920 the crude birth rate was 31.8 and in 1930 was 26.7. By 1935 the rate stood at 23.3. With slight fluctuations during the last five years, the rate in 1940 stood at 23.4.

BIRTH RATES. — The figures in Table 18 show the total live births and the crude birth rates per 1,000 population in Canada, by provinces, from 1926 to 1940. The table and Chart 6 indicate that in Canada the crude birth rate in 1940 still stood at a comparatively high figure being 21.5 per thousand as compared to 20.3 in 1939. In 1921 the crude birth rate for Canada was 29.4; by 1926 the rate had declined to

24.7; by 1931 to 23.2; and by 1936 to 20.0. In 1937 Canada established its lowest crude birth rate since the "National Registration Area" was created—19.8. However, in the succeeding three years the rate recovered slightly. The comparatively high crude birth rate for Canada is largely due to the influence of Quebec and New Brunswick where the rate has shown consistent improvement over the past three years, standing at 25.7 and 25.9 respectively, per thousand population in 1940, compared with 18.2 in Ontario for the same year. Chart 6 also reveals that within the other provinces there were wide variations, as indicated by the 1940 figures, British Columbia experiencing a low of 17.4 and New Brunswick a high of 25.9.

SEX OF LIVE BIRTHS. — The following figures show the distribution of live births in Canada from 1926 to 1940, by sex, together with the ratio of male children to every 1,000 female children. The Vital Statistics of Canada reveals that each province shows an excess of male births, which fact is reflected in the figures for Canada as a whole.

RATIO OF MALE TO FEMALE LIVE BIRTHS, IN CANADA, 1926-40.

Year	Live Births		Number of males per 1,000 births	Ratio of males to 1,000 females
	Male	Female		
1926.....	119,863	112,887	515	1,062
1927.....	120,655	113,533	515	1,063
1928.....	121,505	115,252	513	1,054
1929.....	120,891	114,524	514	1,056
1930.....	124,852	118,643	513	1,052
1931.....	123,622	116,851	514	1,058
1932.....	121,082	114,584	514	1,057
1933.....	114,388	108,480	513	1,054
1934.....	113,323	107,980	512	1,049
1935.....	113,293	108,158	512	1,047
1936.....	113,289	107,082	514	1,058
1937.....	113,143	107,092	514	1,057
1938.....	117,862	111,584	514	1,056
1939.....	117,594	111,874	512	1,051
1940.....	125,279	119,037	513	1,052

Over the period 1926 to 1940, on the average, 1,055 male births occurred to every 1,000 female births. The proportion has varied slightly during this period and stood at 1,052 in 1940. The same ratio may be expressed on the basis of a total of 1,000 live births, and it will be noted from the above table that this ratio is definitely striking in its consistency, and averaging 513 males per 1,000 births during the period. This fact is practically established as a natural law throughout the world. Newsholme¹ comments:

"The proportion has varied at different times, and is not the same in different countries; but in all countries for which records exist more male than female infants are born."

¹ Newsholme, Sir Arthur — *Vital Statistics* — page 56.

It may be noted with respect to this phenomenon that the same ratio does not persist, however, throughout all ages of the population or for all countries. The general rule is that mortality is greater for male children so that with increasing age the tendency is for a reduced ratio of males. In England and in most of the European countries there is a preponderance of females in the general population, while in the relatively newer countries of the Americas and among the countries of the British Commonwealth, there is a definite bias towards male preponderance due to the greater migration of males.

AGE OF PARENTS. — The total births and their distribution according to the ages of mothers, by five-year age-groups, for each of the years from 1926 to 1940, inclusive, are shown in Table 19. The figures show that the child-bearing mothers in the age-group 25 to 29 had the largest proportion of total births with yearly averages ranging between 26 and 29 per cent; that the mothers in the age-group 20 to 25 were second with averages ranging between 23 and 26 per cent and that the age-group 30 to 34 was third with the yearly averages ranging between 20 and 21 per cent. In the age-group 35 to 39 years, which was fourth, the annual range was between 11 and 15 per cent. This latter age-group has not sustained its proportion of births over the fifteen years; in 1926 the percentage for the group was 15.1 but by 1940 the percentage was reduced to 11.8. On the other hand, the proportion of child-bearing mothers in the age groups 20 to 24 and 25 to 29 has steadily increased during the review period.

The fathers and mothers of the children born in each of the years shown in Table 20 have been arranged according to age and then divided into four equal groups. Each point of age at which a separation comes is called a "quartile". To obtain these points of age it is assumed that those in the same year of age are evenly distributed from its lower to its upper limit. It will be seen that in 1926 one-quarter of the married fathers were under 28.35 years of age, one-half under 33.31 years of age and three-quarters under 39.01 years of age; that one-quarter of the married mothers were under 24.43 years of age, one-half under 28.89 years of age and three-quarters under 34.26 years of age. In 1940 one-quarter of the married fathers were under 27.54 years of age, one-half under 31.86 years of age and three-quarters under 37.40 years of age; that one quarter of the married mothers in 1940 were under 23.85 years of age, one-half under 27.81 years of age and three-quarters under 32.81 years of age. It will be noted that in almost every case, for both parents, the 1926 figures are appreciably greater than those for suc-

ceeding years. In other words, it seems apparent that during more recent years parents, generally speaking, are tending to assume the responsibilities of parenthood at somewhat younger ages. It is likewise worthy of note that the range between "quartile" ages for fathers and mothers is roughly four years in each group.

Some issues of the "Canada Year Book"² contain tables showing ages in "deciles", which in a similar manner divide fathers and mothers in each year into ten equal groups of age in an array. The "deciles" likewise reflect the trend in Canadians becoming parents at earlier ages. The following table further illustrates the trend of decrease in the average age of married mothers during the past fifteen years.

AVERAGE AGES OF MARRIED MOTHERS IN CANADA, 1926-40.

Year	Average age of mother	Year	Average age of mother	Year	Average age of mother
1926.....	29.0	1931.....	28.7	1936.....	28.6
1927.....	29.0	1932.....	28.7	1937.....	28.5
1928.....	28.9	1933.....	28.7	1938.....	28.3
1929.....	28.7	1934.....	28.8	1939.....	28.3
1930.....	28.7	1935.....	28.7	1940.....	28.1

MULTIPLE BIRTHS. — During the fifteen-year period, 1926 to 1940, out of a total of 3,529,669 recorded confinements, 42,128 or one in 83.8 were multiple confinements. Of these 41,735 were twin and 389 were triplet confinements, while one, in British Columbia in 1931, was a quadruplet confinement of which all the children died within a few hours of birth. A multiple confinement which has received much publicity during recent years was the birth of the Dionne quintuplets in Ontario in 1934; in this case all five (females) are still living. In 1937 there were 2 quadruplet confinements in the Province of Quebec, all children being born alive.

In 1940 one in every 90 confinements was a twin confinement, a proportion that is fairly representative for the other years of the period. There were only 14 triplet confinements in 1940 as against 36 in 1926; 21 in 1931 and 31 in 1936. Of the children born (alive or dead), one child in every 40 was a unit of a multiple birth in 1926 as against 41 for 1931; 43 for 1936 and 45 for 1940. For children born alive the proportion was one in 41, 43, 44 and 46, respectively and for children stillborn, one in 19, 21, 21 and 22, respectively. In the multiple confinements during the fifteen-year period stillborn children formed an average of 6.2 per cent of the total children born

² Canada Year Book, 1931 to 1942.

as against an average of 2.8 per cent for single confinements.

FERTILITY RATES. — The crude birth rate of a young country is subject to influences which vitiate comparison with older lands. These influences are the result, for the most part, of differences in age, sex distribution and marital status. For this reason birth rates are frequently based on the number of live births to every thousand women within corresponding child-bearing age groups in each country or community. Such rates are known as "fertility rates". Reference to the specific fertility rates of married women in Canada, between the ages of 15 and 49 years are given in the "Canada Year Book"³.

STILLBIRTHS. — For purposes of statistical analysis stillbirths are not included with live births and, therefore, do not enter into the calculations of "infant mortality". In all provinces of Canada stillbirths (dead births) are required to be registered upon a special form provided for that purpose. The Canadian definition of a stillbirth adopted for statistical purposes is, generally speaking, as follows:

"A dead birth (stillbirth) is the birth of a viable foetus, after at least twenty-eight weeks pregnancy, in which pulmonary respiration does not occur; such a foetus may die either: (a) before, (b) during or (c) after birth, but before it has breathed."

The lack of uniformity in indicating the period of utero-gestation of a foetus makes it extremely difficult to classify foetal deaths; in fact, except within the above definition, the laws of Canada do not require the registration of such biological events. To the lay mind there is very little difference between "abortion" and "miscarriage". However, by and large, the tendency of public health workers is to use the following definitions to divide into two categories for statistical purposes, foetal expulsions which occur before 28 completed weeks of pregnancy:

Definition:

"Abortion" means expulsion of the foetus before the twelfth week of utero-gestation;

"Miscarriage" means expulsion of the foetus after the twelfth week but before the twenty-eighth week of utero-gestation.

A Committee of the American Public Health Association, which includes a Canadian representative, is at present working upon a special code which will enable the statistical analysis of the causes of stillborn foetuses.

A foetus born between the age of viability (28 weeks) and the age of foetal maturity (40 weeks), if breathing occurs at all, must be registered not as a "stillbirth", but as a "live birth", and is defined as a "premature birth".

The following figures show the crude stillbirth rate per 100,000 population for the 15 years 1926 to 1940.

STILLBIRTH RATES PER 100,000 POPULATION, IN CANADA, 1926-40.

Year	Stillbirths per 100,000 population	Year	Stillbirths per 100,000 population	Year	Stillbirths per 100,000 population
1926	75.3	1931	73.5	1936	57.7
1927	76.2	1932	69.4	1937	56.5
1928	77.1	1933	64.2	1938	57.4
1929	75.5	1934	59.7	1939	56.3
1930	75.6	1935	59.1	1940	58.3

The figures show that over the fifteen years the stillbirth rate per 100,000 population has shown a reduction of 23 per cent.

The figures in Table 21 show the total number of children born dead annually in Canada, by provinces, from 1926 to 1940, together with the crude rates per 1,000 live births. The table reveals that there was a general improvement in the rates during the fifteen years; in 1926 the rate stood at 30.5, by 1931 it was 31.7 and the trend was continually downward until 1937 when the rate dropped to 28.5. In 1938 there was a slight decrease to 28.0 and in 1940 the rate stood at 27.2.

The ratio of stillbirths to live births is said to be much greater for illegitimate than for legitimate deliveries, especially in the age-group for mothers below 20 years of age. This fact is borne out by the Vital Statistics of Canada and is due no doubt to the fact that the "unmarried mother-to-be" often endeavours to terminate her pregnancy.

The sex ratio of stillbirths for the fifteen year review period was 1,328 males to every 1,000 females. There was a total of 59,327 male stillbirths as compared with 44,666 female stillbirths, which indicates an annual loss of 3,955 potential Canadian fathers, and of 2,978 potential Canadian mothers.

URBAN DISTRIBUTION. — Table 22 summarizes the total births in the principal cities and towns of Canada for the years 1926 to 1940, by five-year averages, within the following limits of population:

over 40,000 population
between

- 20,000 and 40,000 population
- 10,000 and 20,000 population
- 5,000 and 10,000 population
- 1,000 and 5,000 population

³ Canada Year Book, 1936, page 150.

(For distribution of Live Births by counties or census divisions, see Chapter IX—Institutions and Medical Attendance.)

The total wastage of potential Canadians registered during the fifteen year review period was 103,993, an annual average of 6,933 stillbirths. It will be readily admitted that saving of even 50 per cent of these children would have an appreciable effect upon the national population growth. A goodly portion of the death toll of babies prior to delivery could be prevented. Without a full statistical knowledge, it is known that a fair proportion of deaths of foetuses are due to such causes as premature delivery, syphilis in the mother, malformations, birth injury, acute and chronic diseases in the mother and conditions incident to pregnancy and childbirth.

A carefully planned national survey of the causes of stillbirths should be instituted in order that a statistical measurement might be obtained of the loss of potential Canadians through "Miscarriage"

and "Abortion" (both self-induced and induced for therapeutic reasons).

It must be borne in mind that there always will be a number of stillbirths due to illegal interference with the normal functions of childbirth. However, an amendment to the present Vital Statistics laws of each of the provinces requiring complete registration of all "expelled foetuses", coincident with the adoption of a scheme for the co-ordinated distribution of medical services, would provide a reliable foundation for a national research project to reduce pre-birth wastage caused by "abortion", "miscarriage" and "prematurity". Such a survey might very well lead to the adoption of measures which would be the means of materially increasing the birth rate and as a consequence, the rate of natural increase for Canada. Without a doubt the extension of prenatal care to all cases of pregnancy would lead to an increase of normal pregnancies and a very sizeable reduction in wastage from intra-uterine fatalities.

TABLE 17—CRUDE BIRTH RATES PER 1,000 POPULATION OF VARIOUS COUNTRIES OF THE WORLD, 1935, 1936 AND 1937.

Country	1935	1936	1937	Country	1935	1936	1937
Egypt.....	39.4	41.8	43.5	Netherlands.....	20.2	20.2	19.8
Costa Rica.....	43.2	43.0	42.2	Northern Ireland.....	19.2	20.0	19.8
Straits Settlements.....	41.8	44.3	42.1	Eire.....	19.6	19.6	19.2
Palestine.....	45.2	44.9	41.6	Finland.....	18.5	18.1	18.9
Ceylon.....	34.4	34.1	37.8	Germany.....	18.9	19.0	18.8
British India.....	34.9	35.4	34.5	Denmark.....	17.7	17.8	18.0
Chile.....	34.1	34.6	33.5	Latvia.....	17.6	18.1	17.7
Jamaica.....	33.5	32.4	32.1	Scotland.....	17.8	17.9	17.6
Roumania.....	30.7	31.5	30.8	Australia.....	16.6	17.1	17.4
Japan.....	31.6	29.9	30.6	New Zealand.....	16.1	16.6	17.3
Greece.....	28.3	28.1	26.4	Czechoslovakia.....	17.9	17.4	17.2
Newfoundland and Labrador.....	22.4	25.2	25.0	United States (Reg. area).....	16.9	16.7	17.0
Poland.....	26.1	26.2	24.9	Estonia.....	15.9	16.1	16.1
Union of South Africa (whites).....	24.2	24.2	24.9	British Isles.....	15.4	15.5	15.5
Argentina.....	25.2	24.5	24.0	Belgium.....	15.5	15.3	15.4
Bulgaria.....	26.3	25.6	24.0	Norway.....	14.3	14.6	15.1
Italy.....	23.3	22.4	22.9	Switzerland.....	16.0	15.6	15.0
Lithuania.....	23.4	24.2	22.3	England and Wales.....	14.7	14.8	14.9
Iceland.....	22.1	22.0	20.4	France.....	15.2	15.0	14.7
Hungary.....	21.2	20.4	20.2	Sweden.....	13.8	14.2	14.3
Uruguay.....	20.4	19.8	19.9	Austria.....	13.2	13.1	12.8
CANADA.....	20.3	20.0	19.8				

TABLE 18—LIVE BIRTHS AND CRUDE BIRTH RATES PER 1,000 POPULATION, IN CANADA, BY PROVINCES, 1926-40.

Year	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
LIVE BIRTHS										
1926.....	232,750	1,752	10,980	10,340	82,165	67,617	14,661	20,716	14,456	10,063
1927.....	234,188	1,697	11,134	10,479	83,064	67,671	14,147	21,015	14,897	10,084
1928.....	236,757	1,806	10,931	10,047	83,621	68,510	14,504	21,261	15,692	10,385
1929.....	235,415	1,670	10,688	10,235	81,380	68,458	14,236	21,446	16,924	10,378
1930.....	243,495	1,749	11,346	10,534	83,625	71,263	14,411	22,051	17,649	10,867
1931.....	240,473	1,879	11,615	10,801	83,606	69,209	14,376	21,331	17,252	10,404
1932.....	235,666	2,027	11,629	10,810	82,216	66,842	14,124	20,814	16,990	10,214
1933.....	222,868	1,946	11,164	10,037	76,920	63,646	13,304	20,145	16,123	9,583
1934.....	221,303	1,943	11,407	10,164	76,432	62,234	13,310	19,764	16,236	9,813
1935.....	221,451	2,010	11,617	10,388	75,267	63,069	13,335	19,569	16,183	10,013
1936.....	220,371	1,977	11,808	10,513	75,285	62,451	12,855	19,125	15,786	10,571
1937.....	220,235	2,093	11,572	10,580	75,635	61,645	12,888	18,640	15,903	11,279
1938.....	229,446	1,974	12,241	11,447	78,145	65,564	13,478	18,230	15,891	12,476
1939.....	229,468	2,128	11,825	11,286	79,621	64,123	13,583	18,059	16,470	12,373
1940.....	244,316	2,097	12,856	11,700	83,857	68,524	14,771	19,322	17,359	13,830
RATES PER 1,000 POPULATION										
1926.....	24.7	20.1	21.3	26.1	31.6	21.4	22.9	25.2	23.8	16.6
1927.....	24.3	19.5	21.6	26.3	31.3	21.0	21.7	25.0	23.5	16.2
1928.....	24.1	20.5	21.2	25.1	30.8	20.9	21.8	24.7	23.8	16.2
1929.....	23.5	19.0	20.8	25.3	29.4	20.5	21.0	24.3	24.7	15.7
1930.....	23.9	19.9	22.1	25.9	29.6	21.0	20.9	24.4	24.9	16.1
1931.....	23.2	21.3	22.6	26.5	29.1	20.2	20.5	23.1	23.6	15.0
1932.....	22.5	22.8	22.4	26.2	28.3	19.2	19.9	22.3	23.0	14.5
1933.....	20.9	21.9	21.4	23.9	25.9	17.9	18.7	21.6	21.6	13.5
1934.....	20.5	21.8	21.7	23.9	25.3	17.1	18.7	21.2	21.5	13.5
1935.....	20.3	22.6	22.0	24.2	24.6	17.2	18.8	21.0	21.2	13.6
1936.....	20.0	21.5	22.0	24.2	24.3	16.9	18.1	20.5	20.4	14.1
1937.....	19.8	22.5	21.4	24.0	24.1	16.6	18.0	19.9	20.4	15.0
1938.....	20.5	21.0	22.3	25.7	24.6	17.6	18.7	19.4	20.3	16.4
1939.....	20.3	22.4	21.3	25.0	24.8	17.1	18.7	19.0	20.9	16.0
1940.....	21.5	22.3	22.9	25.9	25.7	18.2	20.3	20.8	22.0	17.4

TABLE 19—LIVE BIRTHS BY AGES OF MOTHERS AT BIRTH, IN FIVE YEAR AGE-GROUPS, IN CANADA, 1926-40.

Age Groups	NUMBER OF LIVE BIRTHS										PERCENTAGE DISTRIBUTION				
	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
Under 20 years															
0-24 years	12,999	13,585	14,257	14,719	15,230	15,294	14,801	14,025	13,371	13,589	13,495	13,712	14,755	15,092	16,343
25-29 years	54,554	55,970	57,720	61,092	60,975	59,239	55,595	55,907	56,287	57,469	60,660	59,734	62,212	65,734	66,343
30-34 years	62,885	62,569	62,939	63,475	65,247	65,443	64,794	61,529	61,597	61,958	65,326	66,418	72,149	72,149	72,149
35-39 years	50,251	49,954	49,843	48,283	49,805	49,125	48,021	45,665	46,144	45,089	45,079	44,966	46,629	46,716	49,102
40 years and over	35,117	35,394	34,971	34,459	34,660	34,659	33,683	33,042	31,228	30,477	29,781	28,483	28,675	28,733	28,733
Age not stated	15,253	15,274	15,260	14,652	15,018	14,652	14,611	13,391	13,531	13,138	12,811	12,316	12,140	11,619	11,667
Total	232,750	234,188	236,757	235,415	243,495	240,473	235,666	222,868	221,303	221,451	220,235	229,446	229,468	244,316	244,316

TABLE 20—QUARTILE AGES OF MARRIED FATHERS AND MOTHERS, IN CANADA, 1926-40.

	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
FATHERS															
First Quartile.....	28.35	28.24	28.15	27.98	27.84	27.86	27.91	27.97	28.04	27.99	27.89	27.85	27.73	27.73	27.54
Second Quartile.....	33.31	33.26	33.13	32.89	32.73	32.59	32.67	32.77	32.78	32.62	32.50	32.35	32.17	32.12	31.86
Third Quartile.....	39.01	39.04	38.98	38.83	38.76	38.69	38.78	38.74	38.72	38.56	38.39	38.05	37.97	37.82	37.40
MOTHERS															
First Quartile.....	24.43	24.35	24.25	24.10	24.03	24.07	24.13	24.17	24.22	24.12	24.10	24.00	23.95	23.98	23.85
Second Quartile.....	28.89	28.85	28.71	28.53	28.42	28.37	28.45	28.45	28.52	28.41	28.37	28.20	28.07	28.03	27.81
Third Quartile.....	34.26	34.26	34.16	33.81	33.89	33.79	33.84	33.79	33.91	33.71	33.60	33.38	33.19	33.10	32.81

TABLE 21—STILLBIRTHS AND STILLBIRTH RATIO PER 1,000 LIVE BIRTHS IN CANADA, BY PROVINCES, 1926-40.

Year	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
STILLBIRTHS										
1926.....	7,105	36	356	242	1,940	2,812	434	556	418	311
1927.....	7,336	42	383	288	2,114	2,758	472	542	456	281
1928.....	7,577	45	331	261	2,323	2,793	473	563	458	330
1929.....	7,566	52	369	283	2,276	2,730	533	548	480	295
1930.....	7,707	40	387	340	2,405	2,713	481	547	525	269
1931.....	7,619	48	410	342	2,390	2,652	466	577	453	281
1932.....	7,284	80	474	324	2,385	2,377	385	525	481	253
1933.....	6,848	72	429	295	2,363	2,161	364	467	447	250
1934.....	6,452	67	350	284	2,232	2,091	369	465	363	231
1935.....	6,449	67	342	266	2,317	2,140	331	405	363	218
1936.....	6,350	70	292	237	2,365	2,034	323	431	376	222
1937.....	6,275	63	294	273	2,312	1,988	345	398	355	247
1938.....	6,426	61	356	314	2,356	2,015	347	370	351	256
1939.....	6,365	58	364	289	2,415	1,965	328	372	335	239
1940.....	6,634	52	365	296	2,482	2,037	356	394	378	274
RATIO PER 1,000 LIVE BIRTHS										
1926.....	30.5	20.5	32.4	23.4	23.6	41.6	29.6	25.8	28.9	30.9
1927.....	31.3	24.7	34.4	27.5	25.5	40.8	33.4	25.8	30.6	27.9
1928.....	32.0	24.9	30.3	26.0	27.8	40.8	32.6	26.5	29.2	31.8
1929.....	32.1	31.1	34.5	27.7	28.0	39.9	37.4	25.6	28.4	28.4
1930.....	31.7	22.9	34.1	32.3	28.8	38.1	33.4	24.8	29.7	24.8
1931.....	31.7	25.5	35.3	31.7	28.6	38.3	32.4	27.0	26.3	27.0
1932.....	30.9	39.5	40.8	30.0	29.0	35.6	27.3	25.2	28.3	24.8
1933.....	30.7	37.0	38.4	29.4	30.7	34.0	27.4	23.2	27.7	26.1
1934.....	29.2	34.5	30.7	27.9	29.2	33.6	27.7	23.5	22.4	23.5
1935.....	29.1	33.3	29.4	25.6	30.8	33.9	24.8	20.7	22.4	21.8
1936.....	28.8	35.4	24.7	22.5	31.4	32.6	25.1	22.5	23.8	21.0
1937.....	28.5	30.1	25.4	25.8	30.6	32.2	26.8	21.4	22.3	21.9
1938.....	28.0	30.9	29.1	27.4	30.1	30.7	25.7	20.3	22.1	20.5
1939.....	27.7	27.3	30.8	25.6	30.3	30.6	24.1	20.6	20.3	19.3
1940.....	27.2	24.8	28.4	25.3	29.6	29.7	24.1	20.4	21.8	19.8

TABLE 22—LIVE BIRTHS AND STILLBIRTHS IN THE PRINCIPAL CITIES AND TOWNS OF CANADA,
BY FIVE YEAR AVERAGES, 1926-40.

City or Town	Population		Live births			Stillbirths		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40	Average 1926-30	Average 1931-35	Average 1936-40
40,000 POPULATION AND OVER								
Montreal, Que.....	818,577	903,007	20,205	19,002	17,993	724	691	583
Toronto, Ont.....	631,207	667,457	12,210	11,436	10,441	539	435	331
Vancouver, B.C.....	246,593	275,353	3,776	3,359	4,039	115	87	80
Winnipeg, Man.....	218,785	221,960	4,527	3,944	3,785	190	125	102
Hamilton, Ont.....	155,547	166,337	3,041	2,958	2,928	129	110	93
Quebec, Que.....	130,594	150,757	4,379	4,137	3,976	125	148	160
Ottawa, Ont.....	126,872	154,951	2,965	2,962	3,178	108	99	103
Windsor, Ont.....	98,179	105,311	2,791	2,038	2,173	103	65	66
Calgary, Alta.....	83,761	88,904	1,806	1,695	1,720	71	56	46
Edmonton, Alta.....	79,197	93,817	2,122	2,246	2,731	68	58	56
London, Ont.....	71,148	78,264	1,381	1,379	1,589	67	55	54
Verdun, Que.....	60,745	67,349	1,057	1,021	827	38	34	26
Halifax, N.S.....	59,275	70,488	1,457	1,630	1,772	58	60	54
Regina, Sask.....	53,209	58,245	1,368	1,270	1,331	37	34	31
Saint John, N.B.....	47,514	51,741	1,144	1,203	1,294	53	46	45
Saskatoon, Sask.....	43,291	43,027	1,058	955	928	40	31	21
20,000 TO 40,000 POPULATION								
Victoria, B.C.....	39,082	44,068	717	697	854	24	21	17
Trois-Rivières, Que.....	35,450	42,007	1,329	1,187	1,144	36	48	48
Kitchener, Ont.....	30,793	35,657	754	752	788	28	22	24
Brantford, Ont.....	30,107	31,948	682	627	626	27	26	20
Hull, Que.....	29,433	32,947	1,001	875	842	29	36	36
Sherbrooke, Que.....	28,933	35,965	786	753	872	25	31	28
Outremont, Que.....	28,641	30,751	124	95	52	3	3	1
Fort William, Ont.....	26,277	30,585	635	558	520	23	16	14
St. Catharines, Ont.....	24,753	30,275	596	589	648	21	17	18
Westmount, Que.....	24,235	26,047	110	313	260	7	14	9
Kingston, Ont.....	23,439	30,126	595	657	763	32	24	25
Oshawa, Ont.....	23,439	26,813	645	525	545	28	26	22
Sydney, N.S.....	23,089	28,305	511	587	640	10	9	4
Sault Ste Marie, Ont.....	23,082	25,794	613	574	595	25	23	16
Peterborough, Ont.....	22,327	25,350	579	577	675	34	32	27
Moose Jaw, Sask.....	21,299	20,753	623	464	496	21	8	10
Guelph, Ont.....	21,075	23,273	395	351	294	15	14	10
Glace Bay, N.S.....	20,706	25,147	672	703	892	28	31	38
Moncton, N.B.....	20,689	22,763	518	494	550	13	14	20
10,000 TO 20,000 POPULATION								
Port Arthur, Ont.....	19,818	24,426	542	511	606	23	15	15
Niagara Falls, Ont.....	19,046	20,589	466	421	422	21	18	12
Lachine, Que.....	18,630	20,051	442	398	394	16	16	15
Sudbury, Ont.....	18,518	32,203	498	797	1,317	23	27	38
Sarnia, Ont.....	18,191	18,734	431	413	464	18	16	14
Stratford, Ont.....	17,742	17,038	384	340	393	16	10	11
New Westminster, B.C.....	17,524	21,967	525	558	789	23	20	22
Brandon, Man.....	17,082	17,383	392	303	278	16	12	8
St. Boniface, Man.....	16,305	18,157	843	1,064	1,290	35	34	33
North Bay, Ont.....	15,528	15,599	417	390	407	20	12	17
St. Thomas, Ont.....	15,430	17,132	326	296	398	15	11	13
Shawinigan Falls, Que.....	15,345	20,325	658	570	528	16	14	21
Chatham, Ont.....	14,569	17,369	485	484	735	24	22	24
Timmins, Ont.....	14,200	28,790	491	563	855	12	18	28
Galt, Ont.....	14,006	15,346	277	296	303	14	11	10
Belleville, Ont.....	13,790	15,710	370	376	478	20	17	24
Lethbridge, Alta.....	13,489	14,612	436	531	638	17	15	13
St-Hyacinthe, Que.....	13,448	17,798	333	352	409	12	18	17

NOTE: The populations are based on the distribution as enumerated in the Census of 1931.

TABLE 22—LIVE BIRTHS AND STILLBIRTHS IN THE PRINCIPAL CITIES AND TOWNS OF CANADA,
BY FIVE YEAR AVERAGES, 1926-40.—Continued.

City or Town	Population		Live births			Stillbirths		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40	Average 1926-30	Average 1931-35	Average 1936-40
10,000 TO 20,000 POPULATION—Continued.								
Owen Sound, Ont.	12,839	14,002	334	319	348	14	13	14
Charlottetown, P.E.I.	12,361	14,821	287	361	440	15	18	14
Chicoutimi, Que.	11,877	16,040	553	508	551	13	15	19
Lévis, Que.	11,724	11,991	307	261	231	10	11	10
Valleyfield, Que.	11,411	17,052	317	358	350	11	17	17
Woodstock, Ont.	11,395	12,461	246	237	283	11	8	9
St-Jean, Que.	11,256	13,646	324	295	311	7	8	15
Cornwall, Ont.	11,126	14,117	468	482	606	21	21	23
Joliette, Que.	10,765	12,749	347	329	298	8	9	10
Welland, Ont.	10,709	12,500	288	286	356	13	11	11
Thetford Mines, Que.	10,701	12,716	465	351	342	12	12	13
Granby, Que.	10,587	14,197	298	354	335	9	8	12
Sorel, Que.	10,320	12,251	297	265	240	9	11	11
Medicine Hat, Alta.	10,300	10,571	385	359	355	14	7	7
5,000 TO 10,000 POPULATION								
Prince Albert, Sask.	9,905	12,508	334	398	508	14	16	15
Brockville, Ont.	9,736	11,342	224	248	303	11	14	13
Jonquière, Que.	9,448	13,769	521	439	477	14	11	14
Pembroke, Ont.	9,368	11,159	299	290	296	21	10	14
Dartmouth, N.S.	9,100	10,847	168	144	122	6	4	2
St-Jérôme, Que.	8,967	11,329	340	273	257	12	13	9
New Glasgow, N.S.	8,858	9,210	275	342	443	8	12	12
Fredericton, N.B.	8,830	10,062	200	192	241	8	9	15
Cap-de-la-Madeleine, Que.	8,748	11,961	405	295	281	10	12	10
North Vancouver, B.C.	8,510	8,914	181	177	199	6	6	4
Rivière-du-Loup, Que.	8,499	8,713	257	222	187	7	5	8
Orillia, Ont.	8,183	9,798	246	249	290	12	10	13
Waterloo, Ont.	8,095	9,025	126	90	53	5	2	1
Truro, N.S.	7,901	10,272	190	187	226	7	9	11
La Tuque, Que.	7,871	7,919	288	265	245	6	7	7
Barrie, Ont.	7,776	9,725	176	199	242	8	7	8
Sydney Mines, N.S.	7,769	8,198	235	226	217	9	7	8
New Waterford, N.S.	7,745	9,302	245	304	283	15	14	8
Trail, B.C.	7,573	9,392	176	223	344	2	4	5
Lindsay, Ont.	7,505	8,403	179	187	258	10	10	12
Amherst, N.S.	7,450	8,620	133	152	190	7	8	8
New Toronto, Ont.	7,146	9,504	116	106	67	6	2	1
Smiths Falls, Ont.	7,108	7,159	178	140	164	8	6	4
Lauzon, Que.	7,084	7,877	216	173	140	6	6	3
Yarmouth, N.S.	7,055	7,790	172	177	197	8	9	5
Midland, Ont.	6,920	6,800	196	203	200	9	10	8
Mimico, Ont.	6,800	8,070	126	135	113	7	4	6
Kenora, Ont.	6,766	7,745	197	192	256	7	7	10
Nanaimo, B.C.	6,745	6,635	195	150	181	6	4	4
Eastview, Ont.	6,686	7,966	187	172	163	5	6	6
Drummondville, Que.	6,609	10,555	301	340	253	8	12	9
Portage la Prairie, Man.	6,597	7,187	192	196	254	8	8	8
Campbellton, N.B.	6,505	6,748	272	252	312	13	12	12
Port Colborne, Ont.	6,503	6,993	158	124	82	3	3	2
Grand'Mère, Que.	6,461	8,608	224	189	190	7	10	9
Edmundston, N.B.	6,430	7,096	254	230	225	6	8	7
Springhill, N.S.	6,355	7,170	200	201	217	9	7	7
Prince Rupert, B.C.	6,350	6,714	127	104	122	4	2	3
Magog, Que.	6,302	9,034	206	224	243	8	7	10
Preston, Ont.	6,280	6,704	101	78	60	5	4	1
Trenton, Ont.	6,276	8,323	132	129	140	4	4	3
Victoriaville, Que.	6,213	8,516	183	214	220	6	9	7
Kamloops, B.C.	6,167	5,959	165	193	227	6	6	5
North Sydney, N.S.	6,139	6,836	176	175	212	9	9	8

NOTE: The populations are based on the distribution as enumerated in the Census of 1931.

TABLE 22—LIVE BIRTHS AND STILLBIRTHS IN THE PRINCIPAL CITIES AND TOWNS OF CANADA,
BY FIVE YEAR AVERAGES, 1926-40.—Continued.

City or Town	Population		Live births			Stillbirths		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40	Average 1926-30	Average 1931-35	Average 1936-40
5,000 TO 10,000 POPULATION—Continued.								
St-Lambert, Que.	6,075	6,417	66	57	51	1	3	1
Nelson, B.C.	5,992	5,912	133	169	215	2	2	6
North Battleford, Sask.	5,986	4,745	238	231	279	8	7	6
Fort Erie, Ont.	5,904	6,595	(2)	100	113	(2)	4	3
Cobourg, Ont.	5,834	5,973	126	127	154	6	6	9
Collingwood, Ont.	5,809	6,270	112	122	161	4	4	7
Transcona, Man.	5,747	5,495	90	40	12	4	(3)	1
Rimouski, Que.	5,589	7,009	237	209	209	8	5	8
Brampton, Ont.	5,532	6,020	133	162	205	5	6	5
Fort Francis, Ont.	5,470	5,897	183	130	147	5	3	5
Longueuil, Que.	5,407	7,087	157	119	83	4	6	4
St-Laurent, Que.	5,348	6,242	122	116	81	3	3	3
Renfrew, Ont.	5,296	5,511	149	159	161	7	7	7
Swift Current, Sask.	5,296	5,594	162	164	223	8	6	5
Ingersoll, Ont.	5,233	5,782	113	120	150	4	4	5
Simcoe, Ont.	5,226	6,037	188	238	325	8	7	10
Hawkesbury, Ont.	5,177	6,263	195	167	211	5	5	6
Thorold, Ont.	5,092	5,305	106	67	68	4	2	4
Whitby, Ont.	5,046	5,904	46	39	22	2	1	—
Yorkton, Sask.	5,027	5,577	158	172	264	8	7	7
Dundas, Ont.	5,026	5,276	70	51	23	2	1	(6)
Stellarton, N.S.	5,002	5,351	87	61	30	1	2	1
Weyburn, Sask.	5,002	6,179	136	114	112	5	4	2
1,000 TO 5,000 POPULATION								
Leamington, Ont.	4,902	5,858	101	107	185	3	6	6
Port Hope, Ont.	4,723	5,055	104	96	113	5	3	4
Weston, Ont.	4,723	5,740	62	79	114	3	2	2
Kelowna, B.C.	4,655	5,118	145	162	218	3	3	3
Buckingham, Que.	4,638	4,516	158	143	140	9	5	5
Montreal N., Que.	4,519	6,152	89	99	81	2	4	3
Kénogami, Que.	4,500	6,579	286	204	218	7	3	4
Goderich, Ont.	4,491	4,557	79	82	106	4	3	4
Selkirk, Man.	4,486	4,915	120	155	207	4	5	6
Riverside, Ont.	4,432	4,878	98	73	45	4	1	1
Wallaceburg, Ont.	4,326	4,986	111	91	67	4	2	2
Sturgeon Falls, Ont.	4,234	4,576	197	169	170	6	6	8
Farnham, Que.	4,205	4,055	112	98	70	2	3	2
St-Pierre, Que.	4,185	4,061	95	73	59	4	2	1
Paris, Ont.	4,137	4,637	90	88	92	2	4	2
Carleton Place, Ont.	4,105	4,305	69	59	39	3	3	3
Perth, Ont.	4,099	4,458	99	125	151	4	5	6
Bowmanville, Ont.	4,080	4,113	108	103	128	8	5	6
Pointe-Claire, Que.	4,058	4,536	62	51	36	1	1	1
Coaticook, Que.	4,044	4,414	125	104	98	4	5	5
Penetanguishene, Ont.	4,035	4,521	120	112	116	5	8	5
The Pas, Man.	4,030	3,181	89	110	115	2	5	4
Arnprior, Ont.	4,023	3,895	98	75	54	5	4	3
Chatham, N.B.	4,017	4,082	153	127	154	8	5	8
Dalhousie, N.B.	3,974	4,508	61	131	107	1	3	1
Dauphin, Man.	3,971	4,662	115	149	228	6	6	6
St-Joseph-d'Alma, Que.	3,970	6,449	(1)	248	272	(1)	6	8
Cochrane, Ont.	3,963	2,844	136	147	130	4	4	3
Westville, N.S.	3,946	4,115	80	45	21	2	2	—
Vernon, B.C.	3,937	5,209	106	143	218	4	3	4
Montmagny, Que.	3,927	4,585	183	188	164	2	1	5
Mégantic, Que.	3,911	4,560	151	134	122	7	3	5
Lachute, Que.	3,906	5,310	110	107	122	2	3	2
Melville, Sask.	3,891	4,011	113	104	104	5	2	2
Cobalt, Ont.	3,885	2,376	104	73	77	3	2	2

(1) Population less than 1,000 in the Censuses of Canada for 1921 and 1931 and the Prairie Provinces for 1926 and 1936.

(2) Figures not available.

(3) Less than one.

NOTE: The populations are based on the distribution as enumerated in the Census of 1931.

TABLE 22—LIVE BIRTHS AND STILLBIRTHS IN THE PRINCIPAL CITIES AND TOWNS OF CANADA,
BY FIVE YEAR AVERAGES, 1926-40.—Continued.

City or Town	Population		Live births			Stillbirths		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40	Average 1926-30	Average 1931-35	Average 1936-40
1,000 TO 5,000 POPULATION—Continued.								
Oakville, Ont.	3,857	4,115	51	58	40	1	1	2
Kapuskasing, Ont.	3,819	3,431	(1)	164	145	(1)	5	4
St. Marys, Ont.	3,802	3,635	64	52	45	3	2	1
Summerside, P.E.I.	3,759	5,034	92	133	158	4	4	6
Newmarket, Ont.	3,748	4,026	112	147	196	4	6	6
Beauharnois, Que.	3,729	3,550	83	114	72	2	2	4
Gananoque, Ont.	3,592	4,044	81	66	85	2	2	2
Picton, Ont.	3,580	3,901	87	111	168	4	4	5
East Angus, Que.	3,566	3,501	138	108	71	5	3	2
Parry Sound, Ont.	3,512	5,765	142	178	234	6	7	9
Napanee, Ont.	3,497	3,405	42	45	44	1	(3)	1
St. Stephen, N.B.	3,437	3,306	154	143	219	6	4	5
Dunville, Ont.	3,405	4,028	91	90	101	3	3	3
Tillsonburg, Ont.	3,385	4,002	88	113	222	6	4	8
Newcastle, N.B.	3,383	3,781	108	95	141	5	4	4
Bathurst, N.B.	3,300	3,554	110	108	171	3	6	4
Ste-Thérèse, Que.	3,292	4,659	153	78	80	6	4	3
Bridgewater, N.S.	3,262	3,445	65	65	123	2	2	4
Woodstock, N.B.	3,259	3,593	73	82	124	1	3	5
Beauport, Que.	3,242	3,725	(1)	117	68	(1)	4	3
Rouyn, Que.	3,225	8,808	(1)	141	232	(1)	4	4
Montreal W., Que.	3,190	3,474	4	2	(8)	1	(3)	(3)
Copper Cliff, Ont.	3,173	3,732	75	75	40	2	3	(3)
Pictou, N.S.	3,152	3,069	47	57	57	1	2	2
Hanover, Ont.	3,077	3,290	65	66	72	3	4	4
Cranbrook, B.C.	3,067	2,568	127	47	2	4	1	1
Burlington, Ont.	3,046	3,815	32	29	25	1	1	(3)
Kentville, N.S.	3,033	3,928	50	46	87	(8)	1	2
Windsor, N.S.	3,032	3,436	87	100	154	3	3	5
Drumheller, Alta.	2,987	2,748	269	258	243	9	5	8
Prescott, Ont.	2,984	3,223	45	39	26	1	2	1
Pointe-aux-Trembles, Que.	2,970	4,314	68	60	51	2	1	2
Strathroy, Ont.	2,964	3,016	83	80	118	4	4	6
Ste-Agathe-des-Monts, Que.	2,949	3,308	96	69	78	2	2	2
Estevan, Sask.	2,936	2,774	109	83	111	2	1	2
Inverness, N.S.	2,900	2,975	78	120	155	2	4	3
New Liskeard, Ont.	2,880	3,019	103	82	63	2	1	1
Nicolet, Que.	2,868	3,751	68	62	67	2	3	3
Rossland, B.C.	2,848	3,657	51	62	95	3	1	2
Dominion, N.S.	2,846	3,279	34	31	38	1	1	1
Aylmer, Que.	2,835	3,115	73	66	59	1	2	2
Huntsville, Ont.	2,817	2,800	89	70	78	6	1	5
Haileybury, Ont.	2,813	2,268	77	70	70	2	5	4
Blind River, Ont.	2,805	2,619	93	118	105	7	3	4
Iberville, Que.	2,778	3,454	99	76	75	1	2	2
Laprairie, Que.	2,774	2,936	105	79	53	3	2	1
Roberval, Que.	2,770	3,220	147	103	106	2	1	2
Amherstburg, Ont.	2,759	2,853	52	44	36	3	2	1
Hespeler, Ont.	2,752	3,058	44	34	24	2	(3)	(3)
Campbellford, Ont.	2,744	3,018	53	42	62	2	2	3
Revelstoke, B.C.	2,736	2,106	73	58	57	2	1	1
Fernie, B.C.	2,732	2,545	76	59	57	1	2	1
Lunenburg, N.S.	2,727	2,856	39	41	37	3	2	1
Windsor, Que.	2,720	3,368	108	88	80	3	3	2
Laval-des-Rapides, Que.	2,716	3,242	29	20	18	(3)	(3)	(3)
Listowel, Ont.	2,676	3,013	55	67	85	3	5	4
Liverpool, N.S.	2,669	3,170	46	78	110	1	1	3
Donnacona, Que.	2,631	3,064	119	85	86	2	3	2
Meaford, Ont.	2,624	2,662	43	45	70	2	2	2
Orangeville, Ont.	2,614	2,718	64	78	101	5	5	6
Trenton, N.S.	2,613	2,699	55	43	28	1	1	(3)
Richmond, Que.	2,596	3,082	63	42	43	1	2	1
Petrolia, Ont.	2,596	2,801	84	80	127	6	2	5

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(2) Less than one.

NOTE: The populations are based on the distribution as enumerated in the Census of 1931.

TABLE 22—LIVE BIRTHS AND STILLBIRTHS IN THE PRINCIPAL CITIES AND TOWNS OF CANADA,
BY FIVE YEAR AVERAGES, 1926-40.—Continued.

City or Town	Population		Live births			Stillbirths		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40	Average 1926-30	Average 1931-35	Average 1936-40
1,000 TO 5,000 POPULATION—Continued.								
Aurora, Ont.....	2,587	2,726	36	18	10	1	1	(3)
Merritton, Ont.....	2,523	2,993	32	22	14	1	1	(3)
Prince George, B.C.....	2,479	2,027	76	87	99	3	2	2
Bagotville, Que.....	2,468	3,248	165	100	119	3	1	1
Kincardine, Ont.....	2,465	2,507	74	17	4	4	1	(3)
Chilliwack, B.C.....	2,461	3,675	114	122	11	2	4	(2)
Bracebridge, Ont.....	2,436	2,341	78	80	100	3	2	5
Berthier, Que.....	2,431	2,634	93	83	70	1	2	1
Walkerton, Ont.....	2,431	2,679	58	77	100	4	6	3
Ste-Anne-de-Bellevue, Que.....	2,417	3,006	81	61	45	2	2	2
Almonte, Ont.....	2,415	2,543	89	94	114	4	2	3
Biggar, Sask.....	2,369	1,930	96	77	86	1	3	(3)
Louiseville, Que.....	2,365	3,542	89	120	109	1	4	5
La Salle, Que.....	2,362	4,651	(1)	58	49	(1)	2	1
Port Alberni, B.C.....	2,356	4,584	60	85	210	3	3	4
Red Deer, Alta.....	2,344	2,924	117	106	146	4	4	5
Port Alfred, Que.....	2,342	3,243	151	102	110	2	3	3
Georgetown, Ont.....	2,288	2,562	28	27	16	2	1	(3)
Aylmer, Ont.....	2,283	2,478	29	25	25	1	(3)	(3)
Camrose, Alta.....	2,258	2,598	126	119	181	6	5	3
Sussex, N.B.....	2,252	3,027	39	39	47	1	1	2
Noranda, Que.....	2,246	4,576	(1)	123	230	(1)	2	12
Montreal E., Que.....	2,242	2,355	31	50	57	1	3	4
Sackville, N.B.....	2,234	2,489	54	45	49	2	2	1
Grimsby, Ont.....	2,198	2,331	(1)	35	51	(1)	2	1
Waterloo, Que.....	2,192	3,173	65	75	64	1	2	3
Kingsville, Ont.....	2,174	2,317	49	44	34	2	1	(3)
Mount-Royal, Que.....	2,174	4,888	(1)	3	7	(1)	—	—
Elmira, Ont.....	2,170	2,012	(1)	26	14	(1)	(3)	(3)
Black Lake, Que.....	2,167	2,276	95	57	82	2	2	2
Amos, Que.....	2,153	2,862	(1)	141	157	(1)	4	8
Tecumseh, Ont.....	2,129	2,412	(1)	54	46	(1)	(3)	1
Wetaskiwin, Alta.....	2,125	2,318	108	119	190	2	3	4
Rockland, Ont.....	2,118	2,040	84	49	47	3	1	1
Sioux Lookout, Ont.....	2,088	1,756	64	60	70	2	2	1
Kamsack, Sask.....	2,087	1,792	48	57	61	1	1	1
Dorval, Que.....	2,052	2,048	27	15	15	1	1	—
Dolbeau, Que.....	2,032	2,847	(1)	117	112	(1)	2	2
Alexandria, Ont.....	2,006	2,175	53	44	49	1	(3)	1
Tilbury, Ont.....	1,992	2,155	39	35	29	1	1	1
Marieville, Que.....	1,986	2,394	60	59	36	(3)	2	1
Devon, N.B.....	1,977	2,337	37	42	45	(3)	1	1
St-Tite, Que.....	1,969	2,385	124	95	73	4	2	3
Wingham, Ont.....	1,959	2,030	55	54	75	5	1	3
Terrebonne, Que.....	1,955	2,209	55	48	45	1	(3)	3
Essex, Ont.....	1,954	1,935	39	26	23	1	1	(3)
Ridgetown, Ont.....	1,952	1,944	31	23	20	1	1	1
Wiarton, Ont.....	1,949	1,749	58	47	45	3	1	(3)
Lennoxville, Que.....	1,927	2,150	22	19	13	(3)	(3)	(3)
Parrsboro, N.S.....	1,919	1,971	49	35	40	2	1	2
Neepawa, Man.....	1,910	2,292	74	72	98	3	2	5
Humboldt, Sask.....	1,899	1,767	89	15	7	3	(3)	(3)
Shediac, N.B.....	1,883	2,147	45	42	29	(3)	1	1
Gravenhurst, Ont.....	1,864	2,122	43	36	47	1	2	1
Témiscamingue, Que.....	1,855	2,168	(1)	53	60	(1)	1	4
Raymond, Alta.....	1,849	2,089	82	67	22	2	1	(3)
Duncan, B.C.....	1,843	2,189	94	105	186	2	1	5
Milton, Ont.....	1,839	1,964	30	27	34	2	1	1
Trois-Pistoles, Que.....	1,837	2,176	92	77	64	2	2	2
Wolfville, N.S.....	1,818	1,944	54	78	117	2	2	4
Quebec West, Que.....	1,813	3,619	(1)	61	91	(1)	1	2
Melfort, Sask.....	1,809	2,005	114	103	131	5	3	3
Mount Forest, Ont.....	1,801	1,892	47	41	57	3	3	3

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TABLE 22—LIVE BIRTHS AND STILLBIRTHS IN THE PRINCIPAL CITIES AND TOWNS OF CANADA,
BY FIVE YEAR AVERAGES, 1926-40.—Continued.

City or Town	Population		Live births			Stillbirths		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40	Average 1926-30	Average 1931-35	Average 1936-40
1,000 TO 5,000 POPULATION—Continued.								
Arvida, Que.....	1,790	4,581	(1)	84	100	(1)	2	3
Clinton, Ont.....	1,789	1,896	45	52	78	2	3	4
Antigonish, N.S.....	1,764	2,157	105	141	204	3	7	5
Shaunavon, Sask.....	1,761	1,603	146	126	110	7	3	2
Acton Vale, Que.....	1,753	2,366	83	84	78	3	4	2
Durham, Ont.....	1,750	1,700	47	52	55	3	2	3
Blenheim, Ont.....	1,737	1,952	33	25	23	1	(3)	(3)
Milltown, N.B.....	1,735	1,876	25	21	12	(3)	(3)	—
Coleman, Alta.....	1,704	1,870	63	51	56	1	1	1
Chesley, Ont.....	1,699	1,701	35	34	38	2	1	2
Seaforth, Ont.....	1,686	1,668	48	60	82	3	4	2
Capreol, Ont.....	1,684	1,641	66	44	26	2	1	(3)
Minnedosa, Man.....	1,680	1,636	55	53	82	4	2	2
Courville, Que.....	1,678	2,011	40	45	43	1	1	2
Cardston, Alta.....	1,672	1,864	160	148	164	5	4	2
Souris, Man.....	1,661	1,346	55	46	61	2	1	1
Ste-Rose, Que.....	1,661	2,292	26	32	28	1	1	2
Vegreville, Alta.....	1,659	1,696	225	179	220	6	4	3
Thessalon, Ont.....	1,632	1,316	53	66	60	3	2	2
Mattawa, Ont.....	1,631	1,971	71	70	85	4	2	2
Blairmore, Alta.....	1,629	1,731	34	30	26	2	1	1
Huntingdon, Que.....	1,619	1,952	(1)	34	29	(1)	1	1
Greenfield Park, Que.....	1,610	1,819	14	11	6	(3)	(3)	—
Arthabaska, Que.....	1,608	1,883	62	59	47	2	3	2
Virden, Man.....	1,590	1,619	73	59	67	2	2	(3)
Mitchell, Ont.....	1,588	1,777	22	20	10	1	(3)	2
L'Assomption, Que.....	1,576	1,829	62	58	47	2	3	2
Canso, N.S.....	1,575	1,418	40	28	33	2	2	2
Bedford, Que.....	1,570	1,697	50	53	41	1	2	1
Grand Falls, N.B.....	1,556	1,806	63	49	46	2	1	1
Rosetown, Sask.....	1,553	1,470	(1)	119	120	(1)	4	2
Edson, Alta.....	1,547	1,499	53	70	91	1	2	2
Palmerston, Ont.....	1,543	1,418	36	34	40	2	1	2
Dresden, Ont.....	1,529	1,662	20	27	22	(3)	(3)	—
St-Michel-de-Laval, Que.....	1,528	2,956	(1)	52	53	(1)	1	2
Bromptonville, Que.....	1,527	1,672	97	64	46	3	2	1
Marysville, N.B.....	1,512	1,651	33	31	24	1	1	1
Hanna, Alta.....	1,490	1,622	133	111	105	3	3	3
Southampton, Ont.....	1,489	1,600	28	27	21	1	1	(3)
Forest, Ont.....	1,480	1,570	15	17	17	1	(3)	1
Deseronto, Ont.....	1,476	1,261	28	21	14	1	1	(3)
Iroquois Falls, Ont.....	1,476	1,302	61	51	61	1	1	2
Shelburne, N.S.....	1,474	1,605	29	32	36	2	1	1
Grande Prairie, Alta.....	1,464	1,724	(1)	147	191	(1)	4	5
High River, Alta.....	1,459	1,430	108	106	125	1	3	2
Assiniboia, Sask.....	1,454	1,349	68	77	93	2	2	1
Macleod, Alta.....	1,447	1,912	56	47	45	4	1	1
Ladysmith, B.C.....	1,443	1,706	52	25	33	2	2	3
Indian Head, Sask.....	1,438	1,349	59	57	66	2	2	2
Beloeil, Que.....	1,434	2,008	42	50	46	2	2	2
Keewatin, Ont.....	1,422	1,481	24	8	3	(3)	—	—
Carman, Man.....	1,418	1,455	93	94	129	3	3	4
Morden, Man.....	1,416	1,427	83	75	76	4	6	2
Digby, N.S.....	1,412	1,657	38	55	103	1	1	4
Rosthern, Sask.....	1,412	1,149	47	70	85	1	2	4
Rainy River, Ont.....	1,402	1,205	41	46	75	3	1	2
Vankleek Hill, Ont.....	1,380	1,435	43	38	40	2	1	3
Alliston, Ont.....	1,355	1,733	44	61	90	2	2	5
Dryden, Ont.....	1,326	1,641	70	83	119	2	3	3
Uxbridge, Ont.....	1,325	1,406	(1)	18	24	(1)	(3)	1
Port Coquitlam, B.C.....	1,312	1,539	28	8	2	(3)	—	—
Watrous, Sask.....	1,303	1,138	38	28	26	(3)	(3)	1
Grand Forks, B.C.....	1,298	1,259	34	33	45	1	(3)	1

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TABLE 22—LIVE BIRTHS AND STILLBIRTHS IN THE PRINCIPAL CITIES AND TOWNS OF CANADA,
BY FIVE YEAR AVERAGES, 1926-40.—Concluded.

City or Town	Population		Live births			Stillbirths		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40	Average 1926-30	Average 1931-35	Average 1936-40
1,000 TO 5,000 POPULATION—Continued.								
Harriston, Ont.....	1,296	1,305	19	22	15	(3)	1	(3)
Merritt, B.C.....	1,296	940	48	38	35	1	2	1
Wedgeport, N.S.....	1,294	1,327	33	26	24	1	1	1
Laurentides, Que.....	1,284	1,342	80	48	36	2	1	1
Taber, Alta.....	1,279	1,331	67	62	17	1	1	(3)
Vermilion, Alta.....	1,270	1,408	100	108	128	2	2	3
Port Moody, B.C.....	1,260	1,512	10	4	1	(3)	—	—
Lacombe, Alta.....	1,259	1,603	93	75	111	4	1	2
Niagara, Ont.....	1,228	1,541	22	24	33	1	—	(3)
Magrath, Alta.....	1,224	1,207	51	35	15	1	—	1
Wilkie, Sask.....	1,222	1,232	(1)	87	98	(1)	4	2
Courtenay, B.C.....	1,219	1,737	(1)	3	1	(1)	—	—
Stettler, Alta.....	1,219	1,295	67	91	121	3	4	3
Englehart, Ont.....	1,210	1,262	(1)	78	94	(1)	2	2
St. Andrews, N.B.....	1,207	1,167	13	9	4	(1)	—	(3)
Redcliffe, Alta.....	1,192	1,111	(1)	13	(1)	(1)	—	2
Scotstown, Que.....	1,189	1,273	(1)	31	26	(1)	1	2
Canora, Sask.....	1,179	1,200	89	88	188	2	4	6
Tuxedo, Man.....	1,173	735	(1)	1	(3)	(1)	—	—
Montreal S., Que.....	1,164	1,441	16	14	12	(3)	(1)	(3)
Claresholm, Alta.....	1,156	1,265	(1)	48	57	(1)	1	2
Dorion, Que.....	1,155	1,292	(1)	26	22	(1)	1	(3)
Maple Creek, Sask.....	1,154	1,085	(1)	87	130	(1)	3	3
Cache Bay, Ont.....	1,151	1,004	(1)	35	26	(1)	1	1
Sutherland, Sask.....	1,148	888	(1)	5	(1)	(1)	(1)	(1)
Wainwright, Alta.....	1,147	980	(1)	71	69	(1)	4	2
Beauséjour, Man.....	1,139	1,161	(1)	18	20	(1)	—	(3)
Gravelbourg, Sask.....	1,137	1,130	54	53	(1)	1	2	(1)
Oxford, N.S.....	1,133	1,297	18	18	19	1	1	(3)
Bridgetown, N.S.....	1,126	1,020	22	23	16	1	1	—
Moosomin, Sask.....	1,119	1,096	41	37	41	1	2	1
Beverley, Alta.....	1,111	981	(1)	9	(1)	(1)	(3)	(1)
Little Current, Ont.....	1,101	1,088	(1)	21	16	(1)	2	1
Rigaud, Que.....	1,099	1,222	(1)	26	19	(1)	2	2
Battleford, Sask.....	1,096	1,317	21	20	12	(1)	(3)	(3)
St. George, N.B.....	1,087	1,169	23	18	17	—	1	1
Tisdale, Sask.....	1,089	1,237	(1)	126	174	(1)	3	5
Châteauguay, Que.....	1,067	1,425	(1)	24	24	(1)	1	1
Mahone Bay, N.S.....	1,065	1,025	13	11	7	—	(3)	—
Souris, P.E.I.....	1,063	1,114	(1)	13	27	(1)	1	1
Olds, Alta.....	1,056	1,337	(1)	81	93	(1)	2	4
Wynyard, Sask.....	1,042	1,080	(1)	19	30	(1)	1	(3)
Kindersley, Sask.....	1,037	990	(1)	78	60	(1)	3	2
Stonewall, Man.....	1,031	1,020	29	27	38	1	1	1
Parkhill, Ont.....	1,030	947	15	12	8	(3)	1	—
Innisfail, Alta.....	1,024	1,223	(1)	128	162	(1)	5	3
Pincher Creek, Alta.....	1,024	994	(1)	45	(1)	(1)	1	(1)
Stayner, Ont.....	1,019	1,085	(1)	20	19	(1)	1	1
Port Hawkesbury, N.S.....	1,011	1,031	(1)	4	6	(1)	—	—
Herbert, Sask.....	1,009	875	(1)	43	(1)	(1)	1	(1)
Radville, Sask.....	1,005	813	(1)	20	(1)	(1)	(3)	(1)
Killarney, Man.....	1,003	1,051	(1)	20	(1)	(1)	(3)	(1)
Fort Saskatchewan, Alta.....	1,001	903	(1)	33	(1)	(1)	(3)	(1)
Joggins, N.S.....	1,000	1,109	23	24	30	(1)	1	(3)

(1) Population less than 1,000 in the Censuses of Canada for 1921 and 1931 and the Prairie Provinces for 1926 and 1936.

(2) Less than one.

NOTE: The populations are based on the distribution as enumerated in the Census of 1931.

CHAPTER V

Infant Mortality

"Infant mortality is the most sensitive index we possess of social welfare. If babies were well born and well cared for, their mortality would be negligible".¹

Infant mortality in the public health sense means the deaths of children under one year of age. The ratio commonly expressed is that of the number of deaths under one year to every 1,000 live births occurring in a community and during any period under review. Infant mortality rates thus expressed are for the most part too high. This is mainly caused by an under-registration of births while death registration is usually fairly complete, but for all general purposes this system of calculation is the most accurate that can be obtained. Stillbirths are not usually included with either births or deaths, and, therefore, do not enter into the calculations of infant mortality.

In 1900 in the United States² 1 out of every 6 children born alive died during the first year of life. By 1920 the ratio had improved to 1 out of every 13 and by 1940 to 1 out of every 18 children born alive. It is a matter of historic record that Queen Anne of England had 18 or 19 children—that only one child survived to his eleventh birthday, and that the majority died in very early childhood. At the turn of the century the ratio in England and Wales was 1 out of every 6, in 1920 it was 1 out of every 13 and in 1940 it was 1 out of every 18 babies born alive.

Infant mortality is very definitely one instance where money may purchase health and even life. Generally speaking, there is a marked contrast between the death rates among children born to poor parents and those born to the rich. In most countries a high degree of variation is evident as between urban and rural areas. However, some of the larger cities, such as Chicago and New York, have obtained much lower rates than did the adjacent communities. Collectively and in the broad sense infant mortality is a class disease and much of its human wastage is preventable.

Among the most important focal points in the infant mortality reduction programme are concentration upon (1) the preventable diseases; (2) the pre-natal care of Canadian mothers; (3) an improvement in infant feeding and infant care; (4) an extension of hospital and clinical services; (5) better housing and the abolition of crowded tenement areas and (6) isolation for infantile diarrhoea, the acute respiratory infections and the communicable

diseases, and (7) the extension of public health nursing.

The preventable causes of infant mortality may be grouped into three classes: First—those that are capable of high reduction (*a*) by proper feeding and care, such as acute gastro-intestinal diseases, marasmus and prematurity after 28 weeks pregnancy and (*b*) by specific immunization for communicable diseases, such as diphtheria and smallpox; secondly—those that are capable of considerable reduction through the proper application of hygiene, sanitation and medical treatment measures, such as syphilis, tuberculosis, the acute respiratory diseases (influenza, pneumonia, common cold) and the acute contagious diseases (whooping cough, measles, scarlet fever); thirdly—those that are capable of very little reduction through medical treatment, but capable of some reduction by careful pre-natal and obstetrical care, such as malformations, prematurity prior to 28 weeks pregnancy and some of the accidents of childbirth.

International comparisons show that in most countries of European civilization the movement for the prevention of infant mortality has gained impetus from many sources and the statistical data reveal that a general downward trend has been experienced in most of these countries. The widespread improvement in international infant mortality rates, however, may be more apparent than real and is no doubt due in some measure to improvements which have been brought about in the registration of birth.

The countries selected in Table 23 cover for the most part those having relatively comparable mortality statistics and the years 1935 to 1937 were selected on the basis that these years reflect a period of more normal significance, undisturbed as it were either by a relatively high factor of unemployment or by the factor of high employment obtaining during the present war period.

INTERNATIONAL COMPARISONS. — New Zealand has consistently held the world's low record for deaths among her infants in the first year of life—in 1905, the infant death rate stood at 68 out of every thousand live births and by 1937 the rate had declined to 31. Iceland held second place with a rate of 32 in 1937, to be closely followed by Australia, the Netherlands, Norway, Sweden and Switzerland with rates ranging from 38 to 47.

¹ The quotation is by Sir Arthur Newsholme, author of "Vital Statistics".
² The United States Registration Area.

Canada's position with respect to low international infant mortality rates cannot be said to be wholly unfavourable. On the other hand, ranking of 16th, 12th and 17th in the years 1935, 1936, 1937, respectively, indicates need for improvement. The United States figures revealed a relatively favourable position for that country during the three-year period 1935-37 with rankings of 7th, 8th and 8th, and rates of 56, 57 and 54, respectively.

INTERNATIONAL URBAN COMPARISONS. — One of the triumphs of medicine and public health of modern times has been the reduction of infant mortality in the metropolitan areas of the world. This would tend to convey the impression that city life, if not as healthful, may not necessarily have a more harmful effect on the human infant life than the average living conditions in the country as a whole. The reversal in infant mortality trends would tend to indicate that the improvement in urban facilities for pre-natal, intra-natal and post-natal care of the young is having its effect.

The United States Bureau of the Census has found that the lowest infant death rates occur in large cities with populations of 100,000 and over and that the highest death rates among infants are to be found in small cities with populations ranging from 2,500 to 10,000.

Table 24 shows the infant mortality rates per thousand live births for the principal cities of the world which reflect a certain amount of European civilization. The cities are placed in order of rank for the year 1937 with 1935 and 1936 shown in comparison. Oslo, Norway, has the lowest infant mortality rate in both 1935 and 1937 with 26 and 27, respectively. Brandon, Manitoba, in 1937 had a rate of 30 but in the previous year the rate stood at 80 infant deaths per thousand live births. Vancouver, British Columbia, in 6th place in 1937, has consistently maintained a low rate of infant mortality. In 1935 the rate was 29 and in 1936 and 1937 was 33. In 1937 Victoria, British Columbia, which has for many years claimed the lowest Canadian infant mortality rate, had a rise when the rate stood at 36 but in 1935 and 1936 the rate was reduced to 27. Generally speaking, the Canadian cities maintained a relatively favourable position in low mortality rates in comparison with the other cities of the world.

That Dominion, Provincial and local health authorities in Canada, as well as the private welfare agencies, have taken an active part in the struggle to reduce infant mortality is reflected in Table 25. This reduction has been accomplished through the programme of infant and child welfare which has

been extended throughout the country during recent years, particularly by the establishment of Well-Baby Clinics, and by surveys of the causes of infant deaths. Although annual comparative figures for Canada are available on a national basis only, for the past 15 years the data indicate a steady downward trend both in national and provincial infant mortality rates. In some years an epidemic may have tended to disturb this steady downward trend in the infant mortality rates but, generally speaking, from 1926 to 1940 there has been a marked decline in the number of infant deaths in Canada. There is, however, plenty of room for improvement. This is apparent when one considers that Canada's infant mortality rate in 1940 was 56 deaths out of every thousand children born alive, while in New Zealand for the same year the rate was only 30; in the United States Registration Area the rate was 47, and in the City of Chicago the infant rate is said to have dropped to 32 per thousand live births in 1939. In Canada in 1926, 102 out of every thousand babies born alive failed to live until their first birthday. This means there has been a reduction of 45.1% in Canada's infant mortality since 1926—in round figures, a saving of some 11,100 babies.

RURAL AND URBAN TRENDS. — As already stated, the trend in low infant mortality is swinging very steadily in favour of the larger urban centres of population in most countries of the world. This is a natural sequence for it is in the urban centres that modern facilities for good hospitalization and obstetrical care are within the reach of the people who can afford to pay for such service while the poorer classes are within easy access of the free clinics.

The following table reveals very dramatically the reversal in urban trends in comparison with rural trends in low infant mortality rates in so far as the four larger Canadian Metropolitan areas are concerned.

	Rates per 1,000 live births														
	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
Urban ⁽¹⁾ ...	103	94	93	92	90	83	73	72	68	66	64	68	59	54	49
Rural.....	101	94	85	92	89	87	74	74	75	76	69	85	68	68	66
Montreal....	144	132	144	132	125	114	100	98	89	87	81	87	73	70	58
Quebec....	142	129	124	121	120	113	94	95	97	92	83	100	83	78	70
Toronto....	75	71	73	80	75	70	62	60	49	51	51	47	48	43	38
Ontario....	78	71	71	76	74	70	62	60	57	56	55	55	49	46	43
Vancouver.	55	53	43	41	38	42	42	34	25	29	33	33	33	25	24
British Columbia	58	60	50	55	52	49	47	46	43	46	44	56	45	39	38
Winnipeg...	70	61	61	56	58	48	44	39	42	42	39	42	37	30	35
Manitoba...	77	72	67	71	72	64	59	63	55	63	61	64	56	55	51

⁽¹⁾ Cities and towns over 1,000 population.

At the beginning of the review period, the city of Montreal had a higher infant mortality rate than did the province of Quebec. In 1926 the city rate was 144 compared with the provincial rate of 142, while in 1928, the comparison was 144 to 124. In 1934 a reversal took place and Montreal's infant death rate dropped to 89 per thousand live births as against Quebec's 97. In 1940 the figures were 58 for the city and 70 for the province as a whole.

The comparison for the city of Toronto and the province of Ontario does not reveal such a pronounced change in the trend. In fact, the infant death rate per thousand live births in the city has been slightly lower than the provincial rate. There has been a little variation in the general downward trend in both areas; in fact, in only three years, 1928 to 1930, was the city rate in excess of that of the province.

On the Pacific Coast and in the middle West there is a reversal of trend, the infant mortality rates per thousand live births in Vancouver and Winnipeg being considerably lower than the rates for their respective provinces and this was consistently maintained during the 15 years 1926-40. In fact, from the data available, Vancouver is reported as having one of the lowest mortality rates in the world for 1940 when the infant mortality dropped to 24 out of every thousand babies born alive.

Table 26 summarizes the total infant deaths in the principal cities and towns of Canada, for the years 1926 to 1940, by five-year averages, within the following limits of population:

Over 40,000 population
Between 20,000 and 40,000 population
10,000 and 20,000 population
5,000 and 10,000 population
1,000 and 5,000 population

(For distribution of Infant Mortality by Counties or Census Divisions, see Chapter IX—Institutions and Medical Attendance.)

SPECIFIED AGES AT DEATH. — The following table shows the aggregate number of infant fatalities in Canada by 5-year averages for each month of life.

AGE AT DEATH	Averages		
	1926-30	1931-35	1936-40
Under 1 month.....	10,530	8,507	7,296
1 month and under 2 months..	2,163	1,640	1,383
2 months and under 3 months..	1,854	1,421	1,217
3 months and under 4 months..	1,429	1,053	948
4 months and under 5 months..	1,153	857	745
5 months and under 6 months..	972	748	621
6 months and under 7 months..	851	647	547
7 months and under 8 months..	744	555	487
8 months and under 9 months..	706	485	432
9 months and under 10 months..	641	455	385
10 months and under 11 months..	542	396	338
11 months and under 1 year.....	480	337	302
TOTAL.....	22,065	17,101	14,701

The figures given in Table 27 show the proportionate distribution of deaths of children under one year of age in Canada, occurring in each age period from 1926 to 1940, and Chart 8 shows infant deaths during the first year of life divided into months by five-year averages over the 15-year period, and portrays in a very striking manner the high proportion of deaths which occur during the first month of life in comparison with the other eleven months of the first year. From 1926 to 1930, out of a yearly average of 22,065 infants dying in the first year of life, 10,530 (or 47.72 per cent) died in the first month. From 1931 to 1935 the distribution was 17,101 infant deaths, of which number, 8,507 (or 49.75 per cent) died in the first month, while from 1936 to 1940 out of 14,701 infant deaths, 7,296 (or 49.63 per cent) died in the first month. This would tend to indicate that the proportion of deaths in the first month of life to the succeeding eleven months remained fairly constant during the fifteen year period under review.

The Chart also indicates very forcibly that as the Canadian child ages during the first year of its existence the expectation of life is much greater. A glance at the diagram shows that a very marked improvement is being made in the reduction of infant deaths in Canada at all monthly periods of the first year of life. The Vital Statistics of Canada reveal the fact that among Canadian children in the first year of life, mortality is far higher than in the next thirty years added together. (See also Chapter VI—Neo-natal Mortality).

INFANT MORTALITY BY CAUSES OF DEATH. — Twenty-one principal causes accounted for 90 to 92 per cent of the infant deaths during the fifteen years under review, as will be noted from Table 28, which shows the deaths of children under one year of age and the crude infant mortality rates per 100,000 live births for Canada, from 1926 to 1940, by the principal causes of death. Four causes of death associated with conditions at the time of birth, viz: premature birth, injury at birth, congenital debility and congenital malformations, accounted for the following considerable proportion of the infant deaths:

YEAR	%	YEAR	%	YEAR	%
1926	41.4	1931	43.1	1936	46.3
1927	41.0	1932	45.4	1937	40.4
1928	43.6	1933	44.6	1938	46.4
1929	42.1	1934	43.5	1939	45.8
1930	42.3	1935	44.0	1940	47.5

Chart 9 shows the distribution of these four causes of death at time of birth among Canadian children in the first year of life.

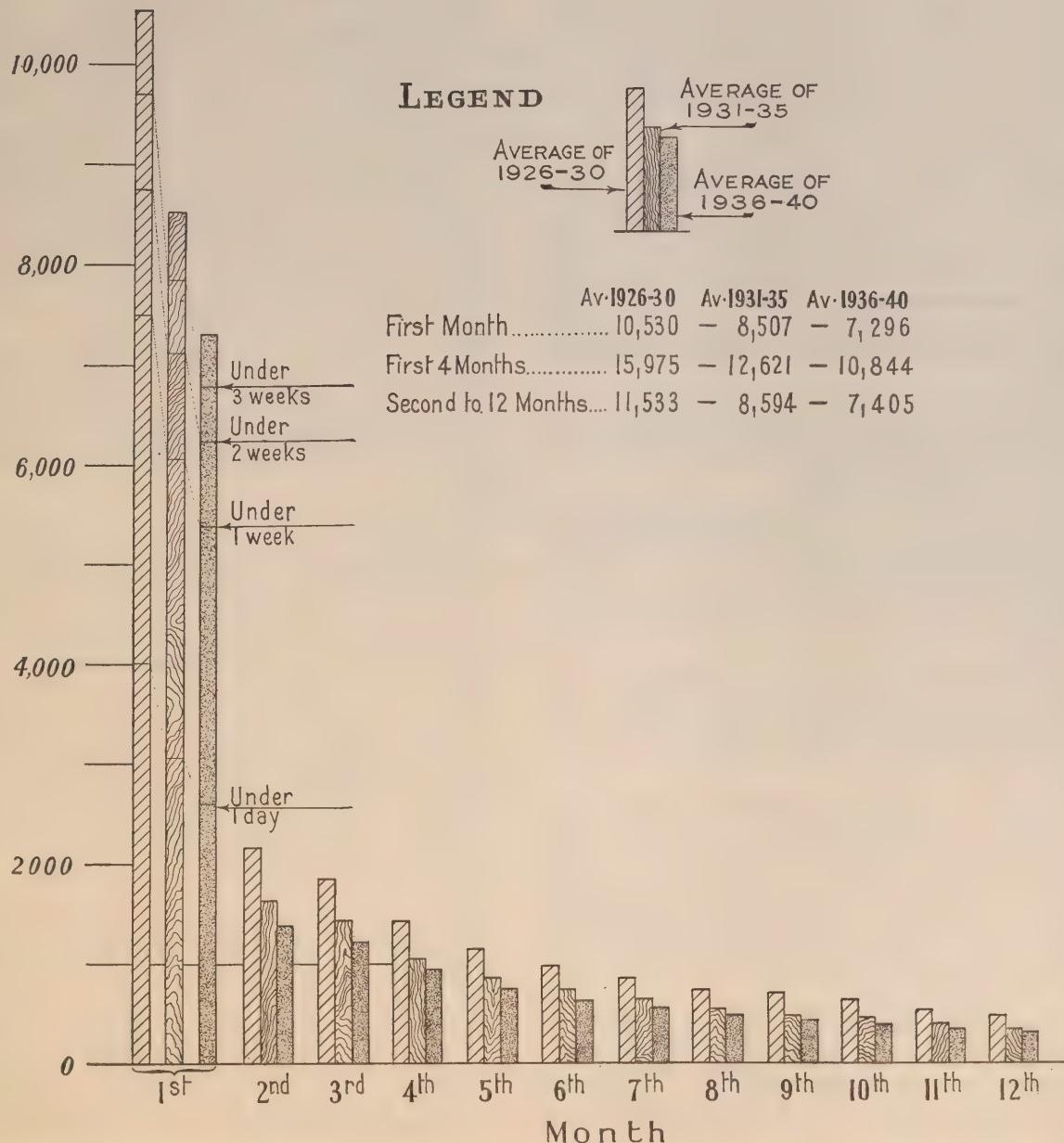
Chart 8

INFANT MORTALITY

Five-Year Averages

Deaths at each age period

1926-1940



PREMATURITY OF BIRTH. — This is chief among the causes of infant deaths. During the past fifteen years, 58,288 children have died as a result of early birth, representing an average annual wastage of babies due to premature birth of 1,678 in every 100,000 born.

In 1926 the death rate per 100,000 live births was 2,184 and in 1940 the rate had been reduced to 1,307 or a drop of about 40 per cent. Much of this wastage of our Canadian babies might be averted with the provision of incubator services for care in the home and for transportation of the prematurely born child to the hospital. The establishment of human milk depots has meant to the very young child almost as much as the "blood-bank" has meant to the wounded on the battlefields.

INJURY AT BIRTH. — During the past fifteen years, Canada has lost from this cause 14,963 babies or 6 per cent of the total infant deaths. This means that 431 out of every 100,000 babies died as the result of injuries caused at birth. The range in provincial rates from 498 to 195 per 100,000 live births in 1940 would seem to suggest that a large portion of this loss could be avoided with the extension of obstetrical facilities.

Birth injury is largely due to disproportion between the size of the pelvis and the baby's head. Faulty position of the foetus may likewise cause injury at the time of delivery.

Early pre-natal care promotes a knowledge of the dangers that lurk during the child-bearing period and leads to good obstetrical care at the time of delivery. It follows, then, that injury and disability at time of birth is, for the most part, preventable.

In 1926 injuries to the newborn accounted for the deaths of 408 out of every 100,000 Canadian born babies and the trend has been steadily downward to a death rate of 390 in 1940 or a reduction of 4 per cent.

A series of postmortem examinations carried out on stillborn foetuses showed that some 23 per cent die as the result of intra-cranial haemorrhage. The establishment of facilities for a national postmortem survey on all deaths from injury at birth might very well lead to a further improvement in medical techniques which would tend to reduce the number of deaths caused by injury at birth.

CONGENITAL DEBILITY. — This cause of death among infants points out the need, among other things, of a more general application of pre-natal care. Recent surveys have strikingly demonstrated that proper nutrition during the pregnancy period

would greatly reduce the child wastage due to congenital debility.

During the fifteen years, 1926 to 1940, the death rate per 100,000 live births for congenital debility has been reduced from 1,011 to 405 or some 60 per cent. The total fifteen year wastage of Canadian babies has been 24,471 or 703 out of every 100,000 babies born alive.

CONGENITAL MALFORMATIONS. — From 1926 to 1940 there has been no improvement in the infant death rate from congenital malformations, and in fact, the general tendency has been slightly upward. In 1926 the rate stood at 607 deaths out of every 100,000 babies born alive, while in 1940 the rate was 577 with an intervening peak of 593 in 1937.

Under the heading "Congenital Malformations" are grouped such causes as congenital hydrocephalus, spina bifida and meningocele, congenital malformations of the heart, monstrosities and other foetuses of an irregular or anomalous formation which cause death among the new born. During the 1926 to 1940 period the total wastage from this group of causes was 19,521.

The other main causes of death among Canadian babies (shown in the lower half of Chart 9) are pneumonia; diarrhoea and enteritis; other diseases peculiar to early infancy; influenza; whooping cough and other specified and unspecified causes of infant deaths.

PNEUMONIA. — During the past fifteen years pneumonia has displaced diarrhoea and enteritis as the second primary cause of death of infants during the first year of life. The fact that there has been no improvement of a constant nature in the infant mortality trend from pneumonia, indicates the urgent need for education in and supervision of hygienic measures for the prevention of pneumonia.

In 1926, a peak year, out of every 100,000 babies born in Canada, 1,069 died as the result of pneumonia. During the review period the trend has been generally downward and in 1940 the death rate was 760. The total pneumonia baby wastage during the fifteen years was 30,066.

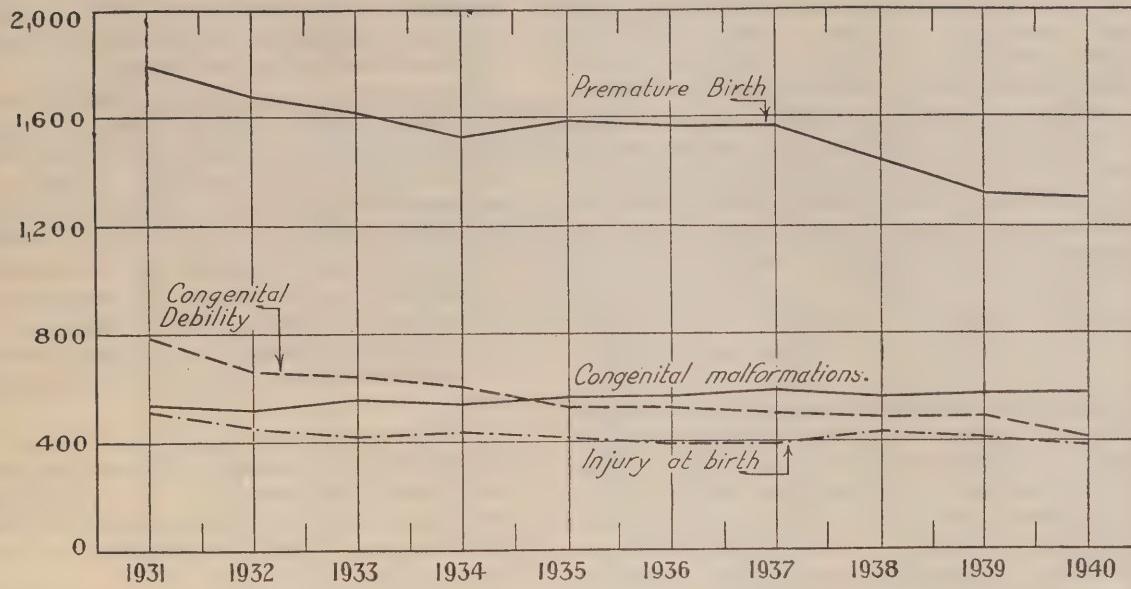
DIARRHOEA AND ENTERITIS. — The incidence of this cause of death among infants in the first year of life has been considered by many public health and medical authorities a principal index of the application of child hygiene measures. If such is the case, then the authorities responsible for the Canadian Child Hygiene programme may well be proud of the Canadian index because from 1926 to 1940 the rate per 100,000 live births has fallen from

Chart 9

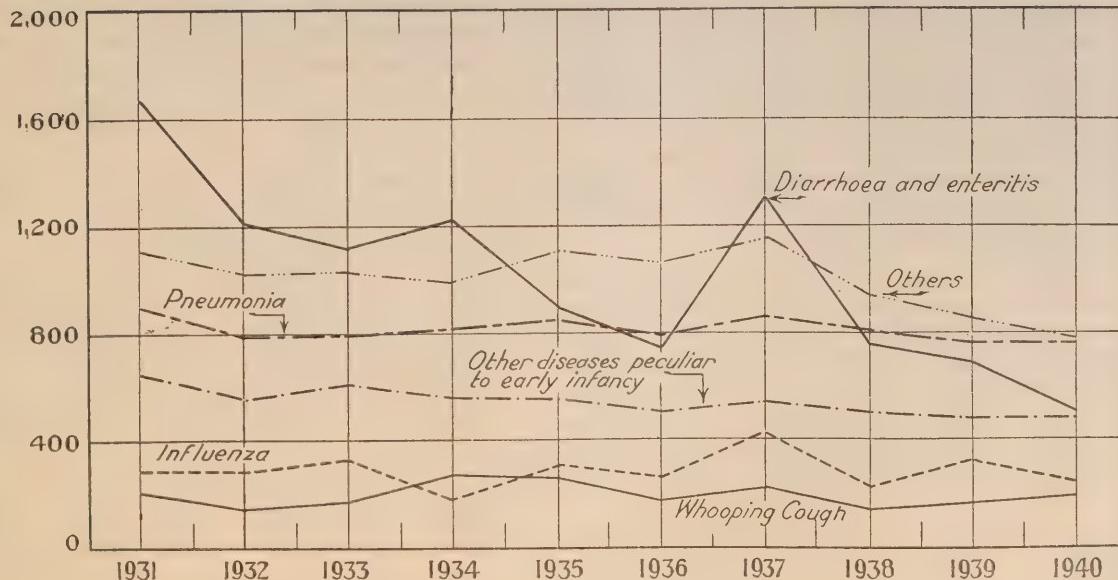
INFANT MORTALITY

CAUSES OF INFANT DEATHS AT BIRTH

(Rates per 100,000 live births)



OTHER LEADING CAUSES OF DEATH



1,855 to 504, a truly remarkable rate of reduction of about 73 per cent. In one year (1937) a sudden reverse action in the downward trend would seem to indicate the presence of a highly epidemic type of infectious diarrhoea and enteritis. It is difficult to account for this peak year of 1937, owing to the fact that the dispersal was such as to suggest disownance of the epidemic type theory because, while five out of the nine provinces were affected at the same time, the other four—Ontario, Manitoba, Alberta and British Columbia—were not affected, in fact Manitoba had a marked decrease in that year.

During the review period the wastage has been 43,786 Canadian babies, but a further marked reduction should be possible because there is still a very wide range in the provincial death rates from diarrhoea and enteritis as indicated by the variations between 872 and 159 infant deaths out of every 100,000 live births in 1940.

OTHER DISEASES PECULIAR TO EARLY INFANCY.—This group, which includes such causes of deaths as atelectasis, icterus of the newborn, sclerema and oedema, atresia and others (including lack of care), also deaths for which no cause was reported (no doctor in attendance), all under three months, has over the fifteen year period (1926 to 1940) shown a steady though slight downward trend in the rate per 100,000 live births. In 1926 the rate was 647 as compared with 483 in 1940, a reduction of 25 per cent. The fifteen year wastage in Canada was 19,144 babies or 7 per cent of the total infant deaths during the same period.

INFLUENZA.—During the fifteen year period 1926 to 1940, influenza caused the deaths in the first year of life of a total of 10,741 Canadian babies. While the rate of 406 per 100,000 live births in 1926 as compared with that of 245 in 1940 would tend to indicate a fair reduction, actually there was a very marked fluctuation in the trend, in fact a plotted curve of the rates over the review period would look very much like a five-spired church.

WHOOPING COUGH.—This is another cause of death which for our Canadian babies tends to fluctuate very considerably from year to year. The 1926 to 1940 infant death toll was 7,520 babies; the rate in 1926 was 332 deaths out of every 100,000 children born alive; in 1940 the rate was 193, and during the fifteen year period there were two pronounced peak years (1930 and 1934) when the rate jumped to 282 and 273, respectively.

OTHER SPECIFIED AND UNSPECIFIED CAUSES.—Deaths of children in this group which totalled 40,826 from 1926 to 1940, include measles

(2,023); scarlet fever (251); diphtheria (455); erysipelas (905); poliomyelitis (169); tuberculosis (2,514) and syphilis (2,290) from among the communicable diseases, while among the other causes of infant deaths are to be found cerebrospinal meningitis (558); convulsions (3,660); bronchitis (1,420); diseases of the stomach (2,358); hernia (intestinal obstruction) (1,185); other specified causes (20,570) and other unspecified or ill defined causes (2,468). The general trend of the death rates per 100,000 live births for these causes has been downward.

Chart 10 shows the percentage distribution of the ten leading causes of deaths among infants in Canada during the ten-year period 1931 to 1940, and reflects the heavy weighting of deaths due to premature birth, diarrhoea and enteritis, pneumonia, congenital malformations and congenital debility.

The chief gains in Canada's fight to reduce infant deaths, then, have been made by the prevention of communicable diseases, by an improvement in nutrition during pregnancy, and by an improvement in hospital and home facilities for care of the newborn.

One fact is very clear, namely, that with an extension of clinical knowledge and obstetrical care the work already well begun in Canada can be carried still further and the wastage among our Canadian babies can undoubtedly be reduced to a far greater degree.

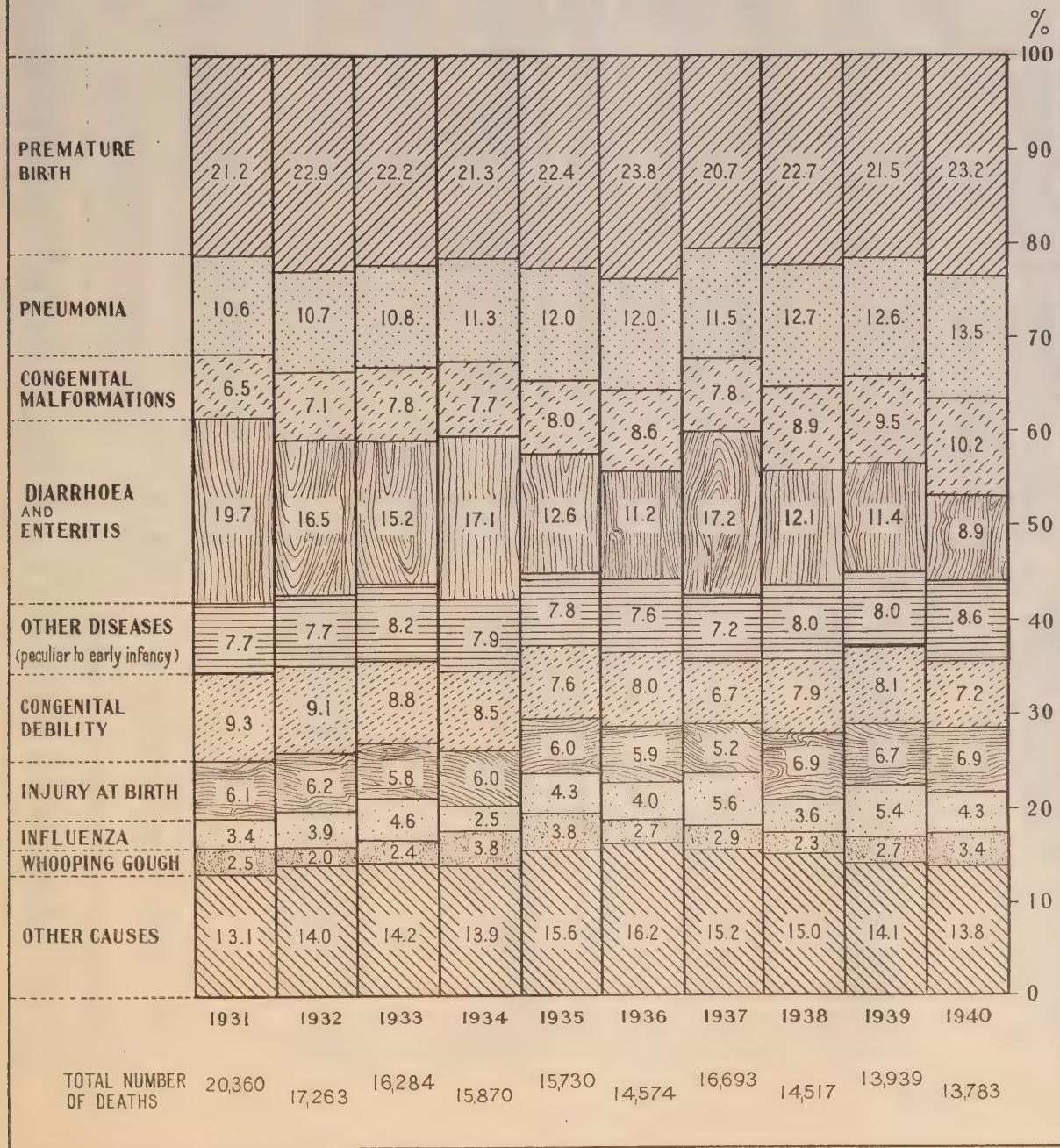
Dublin⁸ found that "babies have an imputed capital value of more than \$9,000 if they are boys and of \$4,600 if they are girls"—hence it would appear that on this basis the annual imputed capital loss in Canada from preventable infant mortality over the fifteen year period, (1926 to 1940) has been:

Year	Males		Females		Total annual imputed capital loss
	Deaths under one year	Imputed capital value at \$9,000	Deaths under one year	Imputed capital value at \$4,600	
1926	13,537	\$121,833,000	10,155	\$46,713,000	\$168,546,000
1927	12,548	112,932,000	9,462	43,525,200	156,457,200
1928	12,026	108,234,000	9,169	42,177,400	150,411,400
1929	12,336	111,024,000	9,338	42,954,800	153,978,800
1930	12,284	110,556,000	9,458	43,506,800	154,062,800
1931	11,667	105,003,000	8,693	39,987,800	144,990,800
1932	9,867	88,803,000	7,396	34,021,600	122,824,600
1933	9,340	84,060,000	6,944	31,942,400	116,002,400
1934	9,124	82,116,000	6,746	31,031,600	113,147,600
1935	9,069	81,621,000	6,661	30,640,600	112,261,600
1936	8,281	74,529,000	6,293	28,947,800	103,476,800
1937	9,508	85,572,000	7,185	33,051,000	118,623,000
1938	8,311	74,799,000	6,206	28,547,600	103,346,600
1939	8,039	72,351,000	5,900	27,140,000	99,491,000
1940	7,844	70,596,000	5,939	27,319,400	97,915,400

⁸ Dublin, Louis I. Health and Wealth, page 9.

Chart 10

INFANT MORTALITY
PERCENTAGE DISTRIBUTION OF TEN LEADING CAUSES
OF
DEATH
1931 — 1940



To summarize—this imputed capital wastage in Canadian babies during the review period has exceeded the astounding sum of \$1,915,536,000.

Conservation of this human wastage should be one of the main planks in our Canadian policy. Much

can be accomplished by an extended national programme of education in pre-natal, intra-natal and post-natal care and by placing within the reach of every Canadian mother every facility to enable her to produce a well-born, and well-cared-for, healthy, Canadian child.

TABLE 23—INFANT MORTALITY RATES PER 1,000 LIVE BIRTHS IN VARIOUS COUNTRIES OF THE WORLD, 1935, 1936 AND 1937.

Country	1935	1936	1937	Country	1935	1936	1937
New Zealand.....	32	31	31	Estonia.....	89	89	91
Iceland.....	68	47	32	Japan.....	107	117	106
Australia.....	40	41	38	Italy.....	101	100	109
Netherlands.....	40	39	38	Jamaica.....	137	130	119
Norway.....	44	42	42	Lithuania.....	123	128	120
Sweden.....	46	43	46	Czechoslovakia.....	123	124	122
Switzerland.....	48	47	47	Greece.....	113	114	122
United States (Reg. area).....	56	57	54	Newfoundland and Labrador.....	119	113	123
Union of South Africa (whites).....	63	59	57	Hungary.....	152	139	134
England and Wales.....	57	59	58	Poland.....	127	141	136
British Isles.....	61	63	62	Costa Rica.....	157	153	142
Germany.....	69	66	64	Bulgaria.....	154	144	150
France.....	69	67	65	Palestine.....	131	122	153
Denmark.....	71	67	66	Straits Settlements.....	165	171	156
Finland.....	67	66	69	Ceylon.....	263	166	158
Eire.....	68	74	73	British India.....	164	162	162
CANADA.....	71	66	76	Egypt.....	161	164	165
Northern Ireland.....	86	77	77	Roumania.....	192	175	178
Scotland.....	77	82	80	Chile.....	251	252	241
Belgium.....	85	86	83	Argentina.....	107	97	(i)
Latvia.....	79	80	85	Uruguay.....	102	92	(i)
Austria.....	99	93	90				

(i) Figures not available.

TABLE 24—INFANT MORTALITY RATES PER 1,000 LIVE BIRTHS IN SOME OF THE PRINCIPAL CITIES OF THE WORLD, 1935, 1936 AND 1937.

City	Country	1935	1936	1937	City	Country	1935	1936	1937
Oslo.....	Norway.....	26	29	27	Sheffield.....	England.....	52	60	55
Wellington.....	New Zealand.....	33	32	29	Hamburg.....	Germany.....	51	56	56
Brandon.....	Canada.....	57	80	30	Leipzig.....	Germany.....	66	56	56
Adelaide.....	Australia.....	35	29	31	Paris.....	France.....	66	68	59
Amsterdam.....	Netherlands.....	28	31	32	Birmingham.....	England.....	65	63	60
Vancouver.....	Canada.....	29	33	33	Breslau.....	Germany.....	62	60	60
Stockholm.....	Sweden.....	35	28	34	Saskatoon.....	Canada.....	31	38	60
Victoria.....	Canada.....	27	27	36	Verdun.....	Canada.....	68	54	60
Auckland.....	New Zealand.....	41	34	37	Berlin.....	Germany.....	63	61	61
London.....	Canada.....	49	55	37	Washington.....	United States.....	60	72	61
Melbourne.....	Australia.....	43	44	37	Johannesburg.....	Union of South Africa.....	84	73	62
Chicago.....	United States.....	40	39	38	Saint John.....	Canada.....	62	69	62
Hamilton.....	Canada.....	49	42	38	Antwerp.....	Belgium.....	41	69	66
Sydney.....	Australia.....	36	42	39	Cologne.....	Germany.....	67	66	66
Brisbane.....	Australia.....	42	38	40	Munich.....	Germany.....	63	66	66
Calgary.....	Canada.....	45	53	41	Halifax.....	Canada.....	63	59	67
Perth.....	Australia.....	40	44	42	Edinburgh.....	Scotland.....	70	68	70
Winnipeg.....	Canada.....	42	39	42	Manchester.....	England.....	71	77	76
New York.....	United States.....	47	45	44	Moncton.....	Canada.....	46	47	81
Capetown.....	Union of South Africa.....	52	46	45	Liverpool.....	England.....	84	76	82
Hobart.....	Tasmania.....	73	50	45	Ottawa.....	Canada.....	94	88	85
Edmonton.....	Canada.....	33	41	46	Montreal.....	Canada.....	87	81	87
Toronto.....	Canada.....	51	51	47	Cork.....	Eire.....	78	79	103
Dresden.....	Germany.....	48	48	48	Glasgow.....	Scotland.....	98	109	104
Windsor.....	Canada.....	49	44	51	Quebec.....	Canada.....	101	101	142
Regina.....	Canada.....	50	53	52	Bombay.....	India.....	245	250	161
Copenhagen.....	Denmark.....	47	42	53	Madras.....	British India.....	224	218	170
London.....	England.....	58	66	54	Frankfort-on-Main	Germany.....	51	51	(i)

(i) Figures not available.

TABLE 25—DEATHS OF CHILDREN UNDER ONE YEAR OF AGE AND DEATH RATES PER 1,000 LIVE BIRTHS
IN CANADA, BY PROVINCES, 1926-40.

Year	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
INFANT MORTALITY										
1926.....	23,692	123	882	1,095	11,666	5,302	1,122	1,681	1,233	588
1927.....	22,010	113	1,028	1,006	10,739	4,812	1,021	1,575	1,110	606
1928.....	21,195	92	865	960	10,332	4,880	972	1,370	1,200	524
1929.....	21,674	150	960	1,090	9,810	5,203	1,005	1,571	1,310	575
1930.....	21,742	132	937	1,048	10,045	5,260	1,035	1,601	1,122	562
1931.....	20,360	128	914	944	9,443	4,833	924	1,463	1,197	514
1932.....	17,263	132	849	774	7,744	4,133	836	1,321	997	477
1933.....	16,284	118	791	821	7,270	3,804	844	1,231	966	439
1934.....	15,870	130	807	878	7,388	3,523	734	1,093	891	426
1935.....	15,730	145	838	866	6,939	3,515	837	1,194	936	460
1936.....	14,574	137	781	806	6,220	3,416	779	1,030	940	465
1937.....	16,693	152	812	1,072	7,580	3,382	826	1,245	994	630
1938.....	14,517	114	754	859	6,486	3,245	750	941	812	556
1939.....	13,939	168	761	893	6,210	2,979	752	930	763	483
1940.....	13,783	137	802	934	5,856	2,959	756	979	834	526
RATE PER 1,000 LIVE BIRTHS										
1926.....	102	70	80	106	142	78	77	81	85	58
1927.....	94	67	92	96	129	71	72	75	75	60
1928.....	90	51	79	96	124	71	67	64	76	50
1929.....	92	90	90	106	121	76	71	73	77	55
1930.....	89	75	83	99	120	74	72	73	64	52
1931.....	85	68	79	87	113	70	64	69	69	49
1932.....	73	65	73	72	94	62	59	63	59	47
1933.....	73	61	71	82	95	60	63	61	60	46
1934.....	72	67	71	86	97	57	55	55	55	43
1935.....	71	72	72	83	92	56	63	61	58	46
1936.....	66	69	66	77	83	55	61	54	60	44
1937.....	76	73	70	101	100	55	64	67	63	56
1938.....	63	58	62	75	83	49	56	52	51	45
1939.....	61	79	64	79	78	46	55	51	46	39
1940.....	56	65	62	80	70	43	51	51	48	38

TABLE 26—DEATHS OF CHILDREN UNDER ONE YEAR OF AGE IN THE PRINCIPAL CITIES AND TOWNS OF CANADA, BY FIVE YEAR AVERAGES, SHOWING THE RATES PER 1,000 LIVE BIRTHS, 1926-40.

City or Town	Population		Deaths under one year			Rate per 1,000 live births		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40	Average 1926-30	Average 1931-35	Average 1936-40
40,000 POPULATION AND OVER								
Montreal, Que.	818,577	903,007	2,735	1,862	1,321	135	98	73
Toronto, Ont.	631,207	667,457	914	673	472	75	59	45
Vancouver, B.C.	246,593	275,353	173	117	117	46	35	29
Winnipeg, Man.	218,785	221,960	277	170	138	61	43	36
Hamilton, Ont.	155,547	166,337	200	167	106	66	56	36
Quebec, Que.	130,594	150,757	727	538	451	166	130	113
Ottawa, Ont.	126,872	154,951	327	257	211	110	87	66
Windsor, Ont.	98,179	105,311	203	106	88	73	52	40
Calgary, Alta.	83,761	88,904	113	74	63	63	44	37
Edmonton, Alta.	79,197	93,817	140	109	107	66	49	39
London, Ont.	71,148	78,264	91	77	70	66	56	44
Verdun, Que.	60,745	67,349	91	68	49	86	67	59
Halifax, N.S.	50,275	70,488	127	119	105	87	73	59
Regina, Sask.	53,209	58,245	92	61	62	67	48	47
Saint John, N.B.	47,514	51,741	113	91	75	99	76	58
Saskatoon, Sask.	43,291	43,027	86	48	35	81	50	38
20,000 TO 40,000 POPULATION								
Victoria, B.C.	39,082	44,068	33	23	27	46	33	32
Trois-Rivières, Que.	35,450	42,007	228	237	210	171	200	184
Kitchener, Ont.	30,793	35,657	43	35	35	58	47	44
Brantford, Ont.	30,107	31,948	52	34	31	76	54	50
Hull, Que.	29,433	32,947	132	102	89	132	117	106
Sherbrooke, Que.	28,933	35,965	77	61	60	97	81	69
Outremont, Que.	28,641	30,751	8	5	2	65	53	38
Fort William, Ont.	26,277	30,585	46	32	23	73	57	44
St. Catharines, Ont.	24,753	30,275	40	27	28	67	46	43
Westmount, Que.	24,235	26,047	11	33	24	102	105	92
Kingston, Ont.	23,439	30,126	59	38	42	99	58	55
Oshawa, Ont.	23,439	26,813	53	29	28	83	55	51
Sydney, N.S.	23,089	28,305	40	26	17	77	44	27
Sault Ste. Marie, Ont.	23,082	25,794	42	25	37	69	44	62
Peterborough, Ont.	22,327	25,350	39	35	34	67	61	50
Moose Jaw, Sask.	21,299	20,753	39	24	20	62	52	40
Guelph, Ont.	21,075	23,273	23	20	12	59	57	41
Glace Bay, N.S.	20,706	25,147	85	69	78	127	98	87
Moncton, N.B.	20,689	22,763	40	24	31	76	49	56
10,000 TO 20,000 POPULATION								
Port Arthur, Ont.	19,818	24,426	45	24	29	83	47	48
Niagara Falls, Ont.	19,046	20,589	31	21	14	66	50	33
Lachine, Que.	18,630	20,051	49	29	24	111	73	61
Sudbury, Ont.	18,518	32,203	54	66	80	108	83	61
Sarnia, Ont.	18,191	18,734	32	22	22	74	53	47
Stratford, Ont.	17,742	17,038	21	19	14	55	56	36
New Westminster, B.C.	17,524	21,967	27	24	26	51	43	33
Brandon, Man.	17,082	17,383	26	18	16	67	59	58
St. Boniface, Man.	16,305	18,157	59	46	43	70	43	33
North Bay, Ont.	15,528	15,599	35	23	23	85	59	57
St. Thomas, Ont.	15,430	17,132	20	16	14	60	54	35
Shawinigan Falls, Que.	15,345	20,325	103	53	39	157	93	74
Chatham, Ont.	14,569	17,369	38	33	38	78	68	52
Timmins, Ont.	14,200	28,790	60	57	57	123	101	67
Galt, Ont.	14,006	15,346	16	15	11	57	51	36
Bellefontaine, Ont.	13,790	15,710	27	20	28	72	53	59
Lethbridge, Alta.	13,489	14,612	33	34	30	76	64	47
St-Hyacinthe, Que.	13,448	17,798	55	42	31	166	119	76

NOTE: The populations are based on the distribution as enumerated in the Census of 1931.

TABLE 26—DEATHS OF CHILDREN UNDER ONE YEAR OF AGE IN THE PRINCIPAL CITIES AND TOWNS OF CANADA, BY FIVE YEAR AVERAGES, SHOWING THE RATES PER 1,000 LIVE BIRTHS, 1926-40—Continued.

City or Town	Population		Deaths under one year			Rate per 1,000 live births		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40	Average 1926-30	Average 1931-35	Average 1936-40
10,000 TO 20,000 POPULATION—Continued								
Owen Sound, Ont.	12,839	14,002	15	16	18	46	50	52
Charlottetown, P.E.I.	12,361	14,821	30	26	32	105	72	73
Chicoutimi, Que.	11,877	16,040	72	57	50	129	112	91
Lévis, Que.	11,724	11,991	37	25	19	120	96	82
Valleyfield, Que.	11,411	17,052	40	31	20	126	87	57
Woodstock, Ont.	11,395	12,461	14	12	13	58	51	46
St-Jean, Que.	11,256	13,646	26	19	18	79	64	58
Cornwall, Ont.	11,126	14,117	48	38	42	102	79	69
Joliette, Que.	10,765	12,749	52	35	26	149	106	87
Welland, Ont.	10,709	12,500	20	19	18	69	66	51
Theftord Mines, Que.	10,701	12,716	52	32	29	113	91	85
Granby, Que.	10,587	14,197	29	28	23	96	79	69
Sorel, Que.	10,320	12,251	56	36	31	187	136	129
Medicine Hat, Alta.	10,300	10,571	23	18	14	59	51	40
5,000 TO 10,000 POPULATION								
Prince Albert, Sask.	9,905	12,508	34	27	28	101	68	55
Brockville, Ont.	9,736	11,342	17	13	16	75	53	54
Jonquière, Que.	9,448	13,769	67	32	37	128	73	78
Pembroke, Ont.	9,368	11,159	30	23	23	101	81	78
Dartmouth, N.S.	9,100	10,847	15	10	6	88	68	52
St-Jérôme, Que.	8,967	11,329	42	22	17	123	82	66
New Glasgow, N.S.	8,858	9,210	15	12	14	53	36	31
Fredericton, N.B.	8,830	10,062	14	12	15	68	64	60
Cap-de-la-Madeleine, Que.	8,748	11,961	69	31	22	170	104	78
North Vancouver, B.C.	8,510	8,914	10	7	5	54	37	24
Rivière-du-Loup, Que.	8,499	8,713	26	17	15	101	77	78
Orillia, Ont.	8,183	9,798	13	13	17	53	53	58
Waterloo, Ont.	8,095	9,025	6	2	2	49	27	30
Truro, N.S.	7,901	10,272	14	16	14	76	85	60
La Tuque, Que.	7,871	7,919	33	28	15	115	106	63
Barrie, Ont.	7,776	9,725	10	10	8	58	50	33
Sydney Mines, N.S.	7,769	8,198	31	20	20	131	90	91
New Waterford, N.S.	7,745	9,302	34	30	23	137	98	82
Trail, B.C.	7,573	9,392	12	7	9	69	32	25
Lindsay, Ont.	7,505	8,403	11	12	14	63	65	56
Amherst, N.S.	7,450	8,620	10	15	15	75	99	78
New Toronto, Ont.	7,146	9,504	7	4	2	59	41	30
Smith Falls, Ont.	7,108	7,159	12	9	8	70	67	49
Lauzon, Que.	7,084	7,877	22	17	11	101	96	80
Yarmouth, N.S.	7,055	7,790	18	12	9	104	70	46
Midland, Ont.	6,920	6,800	20	16	11	100	80	53
Mimico, Ont.	6,800	8,070	6	7	3	49	50	26
Kenora, Ont.	6,766	7,745	16	11	14	81	56	53
Nanaimo, B.C.	6,745	6,635	9	5	6	48	36	34
Eastview, Ont.	6,686	7,966	25	16	10	134	91	62
Drummondville, Que.	6,609	10,555	44	38	22	147	112	88
Portage la Prairie, Man.	6,597	7,187	13	13	11	70	66	44
Campbellton, N.B.	6,505	6,748	29	24	34	107	94	108
Port Colborne, Ont.	6,503	6,993	15	9	4	97	72	49
Grand'Mère, Que.	6,461	8,608	24	16	11	105	85	57
Edmundston, N.B.	6,430	7,096	31	22	20	123	95	89
Springhill, N.S.	6,355	7,170	18	16	14	88	82	63
Prince Rupert, B.C.	6,350	6,714	7	4	7	55	42	57
Magog, Que.	6,302	9,034	26	22	19	125	96	80
Preston, Ont.	6,280	6,704	6	4	1	61	57	20
Trenton, Ont.	6,276	8,323	11	11	8	86	82	57
Victoriaville, Que.	6,213	8,516	21	19	21	113	90	97
Kamloops, B.C.	6,167	5,959	8	11	8	46	55	35
North Sydney, N.S.	6,139	6,836	20	17	22	114	96	104

NOTE: The populations are based on the distribution as enumerated in the Census of 1931.

TABLE 26—DEATHS OF CHILDREN UNDER ONE YEAR OF AGE IN THE PRINCIPAL CITIES AND TOWNS OF CANADA, BY FIVE YEAR AVERAGES, SHOWING THE RATES PER 1,000 LIVE BIRTHS, 1926-40—Continued.

City or Town	Population		Deaths under one year			Rate per 1,000 live births		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40	Average 1926-30	Average 1931-35	Average 1936-40
5,000 TO 10,000 POPULATION—Continued								
St-Lambert, Que.	6,075	6,417	4	2	2	66	42	31
Nelson, B.C.	5,992	5,912	5	6	7	38	38	34
North Battleford, Sask.	5,986	4,745	14	13	12	60	56	42
Fort Erie, Ont.	5,904	6,595	(2)	4	4	(2)	40	39
Cobourg, Ont.	5,834	5,973	7	8	6	57	60	36
Collingwood, Ont.	5,809	6,270	8	7	5	70	61	32
Transcona, Man.	5,747	5,495	9	3	(2)	100	65	16
Rimouski, Que.	5,589	7,009	29	22	14	122	105	68
Brampton, Ont.	5,532	6,020	6	7	6	42	41	29
Fort Francis, Ont.	5,470	5,897	16	9	7	88	69	48
Longueuil, Que.	5,407	7,087	19	8	6	123	69	68
St-Laurent, Que.	5,348	6,242	15	7	4	120	60	47
Renfrew, Ont.	5,296	5,511	12	12	7	83	74	41
Swift Current, Sask.	5,296	5,594	11	9	10	67	56	47
Ingersoll, Ont.	5,233	5,782	9	7	7	83	60	48
Simcoe, Ont.	5,226	6,037	11	16	17	61	68	51
Hawkesbury, Ont.	5,177	6,263	24	16	17	125	96	80
Thorold, Ont.	5,092	5,305	8	4	3	75	62	50
Whitby, Ont.	5,046	5,904	2	2	2	48	56	89
Yorkton, Sask.	5,027	5,577	11	15	16	72	88	81
Dundas, Ont.	5,026	5,276	3	3	2	49	62	68
Stellarton, N.S.	5,002	5,351	11	6	3	124	105	94
Weyburn, Sask.	5,002	6,179	9	6	5	65	56	44
1,000 TO 5,000 POPULATION								
Leamington, Ont.	4,902	5,858	6	6	6	57	54	35
Port Hope, Ont.	4,723	5,055	5	4	5	44	44	46
Weston, Ont.	4,723	5,740	5	3	2	74	41	18
Kelowna, B.C.	4,655	5,118	6	9	8	40	58	36
Buckingham, Que.	4,638	4,516	18	12	8	117	87	57
Montreal N., Que.	4,519	6,152	12	9	5	132	95	65
Kenogami, Que.	4,500	6,579	31	17	16	108	84	75
Goderich, Ont.	4,491	4,557	4	5	5	45	56	43
Selkirk, Man.	4,486	4,915	11	12	17	93	75	81
Riverside, Ont.	4,432	4,878	6	5	1	61	66	27
Wallaceburg, Ont.	4,326	4,986	10	6	1	88	62	21
Sturgeon Falls, Ont.	4,234	4,576	20	16	17	102	97	101
Farnham, Que.	4,205	4,055	16	8	5	142	84	66
St-Pierre, Que.	4,185	4,061	8	3	4	82	47	64
Paris, Ont.	4,137	4,637	7	3	2	80	32	22
Carleton Place, Ont.	4,105	4,305	4	4	2	58	71	61
Perth, Ont.	4,099	4,458	7	7	6	73	54	40
Bowmanville, Ont.	4,080	4,113	5	4	6	44	39	45
Pointe-Claire, Que.	4,058	4,536	3	3	1	51	51	28
Coaticook, Que.	4,044	4,414	13	7	7	101	66	74
Penetanguishene, Ont.	4,035	4,521	11	9	7	88	79	62
The Pas, Man.	4,030	3,181	9	9	10	104	78	83
Arnprior, Ont.	4,023	3,895	8	5	3	80	67	56
Chatham, N.B.	4,017	4,082	16	9	13	102	68	82
Dalhousie, N.B.	3,974	4,508	6	9	8	105	70	71
Dauphin, Man.	3,971	4,662	9	11	12	76	71	51
St-Joseph-d'Alma, Que.	3,970	6,449	(2)	24	21	(2)	98	76
Cochrane, Ont.	3,963	2,844	21	14	9	152	95	66
Westville, N.S.	3,946	4,115	8	5	4	101	108	198
Vernon, B.C.	3,937	5,209	4	5	10	41	35	44
Montmagny, Que.	3,927	4,585	19	18	15	103	94	92
Mégantic, Que.	3,911	4,560	15	13	12	102	100	102
Lachute, Que.	3,906	5,310	16	10	8	149	94	69
Melville, Sask.	3,891	4,011	12	9	6	105	86	56
Cobalt, Ont.	3,885	2,376	10	3	3	92	44	42

(1) Population less than 1,000 in the Censuses of Canada for 1921 and 1931 and the Prairie Provinces for 1926 and 1936.

(2) Figures not available.

(3) Less than one.

NOTE: The populations are based on the distribution as enumerated in the Census of 1931.

TABLE 26—DEATHS OF CHILDREN UNDER ONE YEAR OF AGE IN THE PRINCIPAL CITIES AND TOWNS OF CANADA, BY FIVE YEAR AVERAGES, SHOWING THE RATES PER 1,000 LIVE BIRTHS, 1926-40—Continued.

City or Town	Population		Deaths under one year			Rate per 1,000 live births		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40	Average 1926-30	Average 1931-35	Average 1936-40
1,000 TO 5,000 POPULATION—Continued								
Oakville, Ont.	3,857	4,115	3	1	1	51	10	25
Kapuskasing, Ont.	3,819	3,431	(1)	11	11	(1)	70	79
St. Marys, Ont.	3,802	3,635	4	4	1	63	69	22
Summerside, P.E.I.	3,759	5,034	10	10	11	113	72	71
Newmarket, Ont.	3,748	4,026	4	6	3	36	38	15
Beauharnois, Que.	3,729	3,550	9	7	4	109	60	50
Gananoque, Ont.	3,592	4,044	4	3	2	45	49	21
Picton, Ont.	3,580	3,901	4	5	9	50	45	51
East Angus, Que.	3,566	3,501	16	6	5	117	55	71
Parry Sound, Ont.	3,512	5,765	8	10	10	55	55	42
Napanee, Ont.	3,497	3,405	2	1	2	57	31	50
St. Stephen, N.B.	3,437	3,306	11	10	12	74	70	57
Dunville, Ont.	3,405	4,028	7	5	3	75	56	26
Tillsonburg, Ont.	3,385	4,002	4	6	11	50	51	49
Newcastle, N.B.	3,383	3,781	12	8	11	107	86	79
Bathurst, N.B.	3,300	3,554	10	9	14	92	83	84
Ste-Thérèse, Que.	3,292	4,659	21	8	4	137	106	50
Bridgewater, N.S.	3,262	3,445	4	7	9	65	111	73
Woodstock, N.B.	3,259	3,593	6	6	10	79	71	79
Beauport, Que.	3,242	3,725	(1)	18	7	(1)	156	106
Rouyn, Que.	3,225	8,808	(1)	16	18	(1)	116	78
Montreal W., Que.	3,190	3,474	(1)	—	(1)	45	—	500
Copper Cliff, Ont.	3,173	3,732	5	4	3	70	59	64
Pictou, N.S.	3,152	3,069	4	5	3	85	88	56
Hanover, Ont.	3,077	3,290	5	5	3	83	73	39
Cranbrook, B.C.	3,067	2,568	8	1	(1)	64	30	182
Burlington, Ont.	3,046	3,815	3	1	1	87	41	48
Kentville, N.S.	3,033	3,928	2	3	4	48	65	51
Windsor, N.S.	3,032	3,436	7	7	12	78	72	75
Drumheller, Alta.	2,987	2,748	13	10	8	48	38	32
Prescott, Ont.	2,984	3,223	4	2	2	94	51	68
Pointe-aux-Trembles, Que.	2,970	4,314	10	19	81	147	319	1,578
Strathroy, Ont.	2,964	3,016	4	2	4	51	25	30
Ste-Agathe-des-Monts, Que.	2,949	3,308	11	5	5	116	73	67
Estevan, Sask.	2,936	2,774	8	5	6	77	58	52
Inverness, N.S.	2,900	2,975	11	9	11	137	77	72
New Liskeard, Ont.	2,880	3,019	4	5	1	39	56	22
Nicolet, Que.	2,868	3,751	7	7	4	97	110	63
Rossland, B.C.	2,848	3,657	3	2	3	59	32	36
Dominion, N.S.	2,846	3,279	7	6	8	214	209	221
Aylmer, Que.	2,835	3,115	4	5	3	60	73	51
Huntsville, Ont.	2,817	2,800	7	5	2	77	71	23
Haileybury, Ont.	2,813	2,268	8	7	7	102	106	103
Blind River, Ont.	2,805	2,619	11	11	9	120	90	90
Iberville, Que.	2,778	3,454	9	5	2	87	61	32
Laprairie, Que.	2,774	2,936	14	6	4	136	74	75
Roberval, Que.	2,770	3,220	16	11	9	106	103	81
Amherstburg, Ont.	2,759	2,853	5	2	3	88	50	89
Hespeler, Ont.	2,752	3,058	3	2	1	63	59	33
Campbellford, Ont.	2,744	3,018	4	3	4	72	67	61
Revelstoke, B.C.	2,736	2,106	3	2	2	47	38	31
Fernie, B.C.	2,732	2,545	4	2	2	47	40	35
Lunenburg, N.S.	2,727	2,856	3	3	3	82	63	70
Windsor, Que.	2,720	3,368	14	9	5	133	107	60
Laval-des-Rapides, Que.	2,716	3,242	5	1	1	158	61	33
Listowel, Ont.	2,676	3,013	2	4	5	40	54	56
Liverpool, N.S.	2,669	3,170	7	5	4	143	59	40
Donnacona, Que.	2,631	3,064	13	8	5	111	89	58
Meaford, Ont.	2,624	2,662	3	2	2	60	49	34
Orangeville, Ont.	2,614	2,718	6	7	5	87	85	45
Trenton, N.S.	2,613	2,699	5	5	3	97	116	106
Richmond, Que.	2,596	3,082	5	3	3	79	82	65
Petrolia, Ont.	2,596	2,801	5	3	5	64	40	41

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(2) Less than one.

NOTE: The populations are based on the distribution as enumerated in the Census of 1931.

TABLE 26—DEATHS OF CHILDREN UNDER ONE YEAR OF AGE IN THE PRINCIPAL CITIES AND TOWNS OF CANADA, BY FIVE YEAR AVERAGES, SHOWING THE RATES PER 1,000 LIVE BIRTHS, 1926-40—Continued.

City or Town	Population		Deaths under one year			Rate per 1,000 live births		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40	Average 1926-30	Average 1931-35	Average 1936-40
1,000 TO 5,000 POPULATION—Continued								
Aurora, Ont.	2,587	2,726	2	1	1	67	34	83
Merriton, Ont.	2,523	2,993	1	1	(3)	38	55	28
Prince George, B.C.	2,479	2,027	4	4	4	47	41	40
Bagotville, Que.	2,468	3,248	24	10	9	143	100	74
Kincardine, Ont.	2,465	2,507	6	2	1	81	143	316
Chilliwack, B.C.	2,461	3,675	6	5	3	52	43	236
Bracebridge, Ont.	2,436	2,341	5	4	5	66	48	54
Berthier, Que.	2,431	2,634	12	9	6	133	103	85
Walkerton, Ont.	2,431	2,679	3	4	6	45	54	60
Ste-Anne-de-Bellevue, Que.	2,417	3,006	5	3	2	64	49	35
Almonte, Ont.	2,415	2,543	2	3	2	25	34	19
Biggar, Sask.	2,369	1,930	4	3	2	44	39	26
Louisville, Que.	2,365	3,542	13	10	5	147	85	48
La Salle, Que.	2,362	4,651	(1)	3	2	(1)	59	49
Port Alberni, B.C.	2,356	4,584	4	3	6	70	35	31
Red Deer, Alta.	2,344	2,924	5	5	6	45	49	44
Port Alfred, Que.	2,342	3,243	18	11	10	121	104	88
Georgetown, Ont.	2,288	2,562	2	2	1	80	59	38
Aylmer, Ont.	2,283	2,478	(1)	1	1	14	24	24
Camrose, Alta.	2,258	2,598	11	6	7	85	54	41
Sussex, N.B.	2,252	3,027	4	1	3	92	36	64
Noranda, Que.	2,246	4,576	(1)	8	20	(1)	62	86
Montreal E., Que.	2,242	2,355	6	3	5	192	64	95
Sackville, N.B.	2,234	2,489	2	1	2	44	27	49
Grimsby, Ont.	2,198	2,331	(1)	1	2	(1)	40	36
Waterloo, Que.	2,192	3,173	7	6	7	111	77	107
Kingsville, Ont.	2,174	2,317	4	3	(3)	77	64	12
Mount-Royal, Que.	2,174	4,888	(1)	—	(3)	(1)	—	28
Elmira, Ont.	2,170	2,012	(1)	1	(4)	(1)	31	14
Black Lake, Que.	2,167	2,276	16	4	7	165	73	80
Amos, Que.	2,153	2,862	(1)	14	9	(1)	96	60
Tecumseh, Ont.	2,129	2,412	(1)	2	1	(1)	37	17
Wetaskiwin, Alta.	2,125	2,318	9	7	8	87	56	43
Rockland, Ont.	2,118	2,040	10	6	3	124	117	73
Sioux Lookout, Ont.	2,088	1,756	5	3	4	84	43	54
Kamsack, Sask.	2,087	1,792	6	5	4	116	85	69
Dorval, Que.	2,052	2,048	3	2	1	97	120	40
Dolbeau, Que.	2,032	2,847	(1)	8	9	(1)	72	78
Alexandria, Ont.	2,006	2,175	7	4	3	127	99	53
Tilbury, Ont.	1,992	2,155	3	2	1	67	57	48
Marieville, Que.	1,986	2,394	4	3	2	70	47	61
Devon, N.B.	1,977	2,337	2	3	3	54	81	75
St-Tite, Que.	1,969	2,385	12	10	4	95	104	49
Wingham, Ont.	1,959	2,030	4	2	3	69	37	43
Terrebonne, Que.	1,955	2,209	6	6	1	101	126	22
Essex, Ont.	1,954	1,935	3	2	(3)	88	63	18
Ridgetown, Ont.	1,952	1,944	2	1	2	77	35	82
Wiarton, Ont.	1,949	1,749	2	3	2	38	56	53
Lennoxville, Que.	1,927	2,150	2	(3)	(3)	92	22	15
Parrsboro, N.S.	1,919	1,971	3	3	3	70	90	76
Neepawa, Man.	1,910	2,292	5	4	4	67	55	37
Humboldt, Sask.	1,899	1,767	6	1	(3)	67	54	28
Shediac, N.B.	1,883	2,147	8	5	3	181	115	97
Gravenhurst, Ont.	1,864	2,122	3	2	2	75	50	51
Témiscamingue, Que.	1,855	2,168	(1)	5	5	(1)	98	80
Raymond, Alta.	1,849	2,089	5	4	1	61	60	64
Duncan, B.C.	1,843	2,189	4	5	6	43	46	32
Milton, Ont.	1,839	1,964	2	1	(3)	79	29	12
Trois-Pistoles, Que.	1,837	2,176	9	5	3	102	65	44
Wolfville, N.S.	1,818	1,944	6	5	4	112	70	36
Quebec West, Que.	1,813	3,619	(1)	7	5	(1)	111	59
Melfort, Sask.	1,809	2,005	8	7	10	72	64	79
Mount Forest, Ont.	1,801	1,892	1	3	1	30	77	25

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(2) Less than one.

NOTE: The populations are based on the distribution as enumerated in the Census of 1931.

TABLE 26—DEATHS OF CHILDREN UNDER ONE YEAR OF AGE IN THE PRINCIPAL CITIES AND TOWNS OF CANADA, BY FIVE YEAR AVERAGES, SHOWING THE RATES PER 1,000 LIVE BIRTHS, 1926-40—Continued.

City or Town	Population		Deaths under one year			Rate per 1,000 live births		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40	Average 1926-30	Average 1931-35	Average 1936-40
1,000 TO 5,000 POPULATION—Continued								
Arvida, Que.....	1,790	4,581	(1)	6	6	(1)	67	58
Clinton, Ont.....	1,789	1,896	2	2	3	35	43	38
Antigonish, N.S.....	1,764	2,157	5	10	9	49	72	42
Shaunavon, Sask.....	1,761	1,603	13	7	3	92	52	25
Acton Vale, Que.....	1,753	2,366	11	7	6	127	83	79
Durham, Ont.....	1,750	1,700	2	2	2	47	31	33
Blenheim, Ont.....	1,737	1,952	2	1	(3)	55	56	18
Milltown, N.B.....	1,735	1,876	2	2	(3)	81	87	16
Coleman, Alta.....	1,704	1,870	4	4	3	70	70	46
Chesley, Ont.....	1,699	1,701	2	1	1	52	29	16
Seaforth, Ont.....	1,686	1,668	2	3	4	42	43	49
Capreol, Ont.....	1,684	1,641	6	3	2	97	68	62
Minnedosa, Man.....	1,680	1,636	4	4	4	65	68	44
Courville, Que.....	1,678	2,011	4	3	3	91	62	61
Cardston, Alta.....	1,672	1,864	7	7	6	46	45	35
Souris, Man.....	1,661	1,346	4	2	3	80	48	53
Ste-Rose, Que.....	1,661	2,292	6	3	4	223	106	129
Vegreville, Alta.....	1,659	1,696	13	8	8	57	42	35
Thessalon, Ont.....	1,632	1,316	4	4	4	79	57	60
Mattawa, Ont.....	1,631	1,971	7	6	9	101	80	111
Blairmore, Alta.....	1,629	1,731	4	2	1	112	54	47
Huntingdon, Que.....	1,619	1,952	(1)	2	2	(1)	53	61
Greenfield Park, Que.....	1,610	1,819	1	(3)	(3)	57	18	32
Arthabaska, Que.....	1,608	1,883	6	6	6	100	96	119
Virden, Man.....	1,590	1,619	4	3	3	58	58	39
Mitchell, Ont.....	1,588	1,777	1	1	1	64	40	83
L'Assomption, Que.....	1,576	1,829	12	7	5	199	120	111
Canso, N.S.....	1,575	1,418	4	2	2	104	58	49
Bedford, Que.....	1,570	1,697	4	2	2	79	37	49
Grand Falls, N.B.....	1,556	1,806	6	4	4	95	78	86
Rosetown, Sask.....	1,553	1,470	(1)	3	4	(1)	22	33
Edson, Alta.....	1,547	1,499	5	4	5	98	60	55
Palmerston, Ont.....	1,543	1,418	1	2	1	39	65	35
Dresden, Ont.....	1,529	1,662	2	2	1	89	90	55
St-Michel-de-Laval, Que.....	1,528	2,956	(1)	5	2	(1)	88	46
Bromptonville, Que.....	1,527	1,672	13	4	4	136	63	87
Marysville, N.B.....	1,512	1,651	3	1	1	85	26	42
Hanna, Alta.....	1,490	1,622	8	6	4	57	54	34
Southampton, Ont.....	1,489	1,600	2	2	1	85	68	49
Forest, Ont.....	1,480	1,570	1	(3)	(3)	54	24	12
Deseronto, Ont.....	1,476	1,261	3	2	1	121	113	42
Iroquois Falls, Ont.....	1,476	1,302	4	4	3	69	79	46
Shelburne, N.S.....	1,474	1,605	2	2	2	69	56	61
Grande Prairie, Alta.....	1,464	1,724	(1)	6	7	(1)	41	38
High River, Alta.....	1,459	1,430	4	4	4	35	34	29
Assiniboia, Sask.....	1,454	1,349	6	3	3	83	42	32
Macleod, Alta.....	1,447	1,912	2	2	2	43	34	40
Ladysmith, B.C.....	1,443	1,706	3	1	1	58	56	36
Indian Head, Sask.....	1,438	1,349	5	3	3	78	60	42
Beloeil, Que.....	1,434	2,008	6	4	3	138	88	57
Keewatin, Ont.....	1,422	1,481	1	—	—	41	—	—
Carman, Man.....	1,418	1,455	6	5	5	60	53	39
Morden, Man.....	1,416	1,427	4	3	2	48	35	32
Digby, N.S.....	1,412	1,657	4	3	7	116	51	66
Rosthern, Sask.....	1,412	1,149	3	5	5	59	68	59
Rainy River, Ont.....	1,402	1,205	2	3	2	44	74	24
Vankleek Hill, Ont.....	1,380	1,435	3	4	4	70	100	95
Alliston, Ont.....	1,355	1,733	2	3	4	55	56	42
Dryden, Ont.....	1,326	1,641	4	3	9	54	39	73
Uxbridge, Ont.....	1,325	1,406	(1)	1	1	(1)	76	57
Port Coquitlam, B.C.....	1,312	1,539	(3)	(3)	1	14	24	500
Watrous, Sask.....	1,303	1,138	2	1	1	53	43	30
Grand Forks, B.C.....	1,298	1,259	2	2	2	47	55	40

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(*) Less than one.

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TABLE 26—DEATHS OF CHILDREN UNDER ONE YEAR OF AGE IN THE PRINCIPAL CITIES AND TOWNS OF CANADA, BY FIVE YEAR AVERAGES, SHOWING THE RATES PER 1,000 LIVE BIRTHS, 1926-40—Concluded.

City or Town	Population		Deaths under one year			Rate per 1,000 live births		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40	Average 1926-30	Average 1931-35	Average 1936-40
1,000 TO 5,000 POPULATION—Continued								
Harriston, Ont.	1,296	1,305	1	(3)	(3)	32	18	14
Merritt, B.C.	1,296	940	3	2	2	59	58	45
Wedgeport, N.S.	1,294	1,327	3	1	1	104	46	50
Laurentides, Que.	1,284	1,342	15	8	4	188	162	107
Taber, Alta.	1,279	1,331	7	4	1	101	67	71
Vermilion, Alta.	1,270	1,408	6	5	5	62	48	38
Port Moody, B.C.	1,260	1,512	(3)	(3)	(3)	42	45	250
Lacombe, Alta.	1,259	1,603	7	5	5	77	72	45
Niagara, Ont.	1,228	1,541	1	(3)	2	64	8	60
Magrath, Alta.	1,224	1,207	2	1	1	47	40	39
Wilkie, Sask.	1,222	1,232	(3)	4	3	(3)	48	33
Courtenay, B.C.	1,219	1,737	(1)	—	(3)	(1)	—	143
Stettler, Alta.	1,219	1,295	4	4	5	54	44	40
Englehart, Ont.	1,210	1,262	(1)	5	4	(1)	59	43
St. Andrews, N.B.	1,207	1,167	1	1	1	94	67	200
Redcliffe, Alta.	1,192	1,111	(1)	1	(1)	(1)	47	(1)
Scotstown, Que.	1,189	1,273	(1)	2	2	(1)	65	70
Canora, Sask.	1,179	1,200	6	3	12	70	39	64
Tuxedo, Man.	1,173	735	(1)	(3)	(3)	(1)	333	1,000
Montreal S., Que.	1,164	1,441	1	2	1	77	114	67
Claresholm, Alta.	1,156	1,265	(1)	2	2	(1)	42	32
Dorion, Que.	1,155	1,292	(1)	1	(3)	(1)	53	9
Maple Creek, Sask.	1,154	1,085	(1)	5	5	(1)	57	39
Cache Bay, Ont.	1,151	1,004	(1)	3	1	(1)	92	45
Sutherland, Sask.	1,148	888	(1)	(3)	(1)	(1)	38	(1)
Wainwright, Alta.	1,147	980	(1)	4	4	(1)	56	52
Beauséjour, Man.	1,139	1,161	(1)	1	1	(1)	80	59
Gravelbourg, Sask.	1,137	1,130	6	4	(1)	103	68	(1)
Oxford, N.S.	1,133	1,297	1	1	1	67	44	42
Bridgetown, N.S.	1,126	1,020	1	1	1	55	53	63
Moosomin, Sask.	1,119	1,096	2	3	2	49	70	58
Beverley, Alta.	1,111	981	(1)	(3)	(1)	(1)	43	(1)
Little Current, Ont.	1,101	1,088	(1)	1	2	(1)	56	99
Rigaud, Que.	1,099	1,222	(1)	4	2	(1)	144	94
Battleford, Sask.	1,096	1,317	2	2	1	107	92	69
St. George, N.B.	1,087	1,169	1	2	1	52	102	47
Tisdale, Sask.	1,069	1,237	(1)	8	8	(1)	63	47
Châteauguay, Que.	1,067	1,425	(1)	2	1	(1)	66	42
Mahone Bay, N.S.	1,065	1,025	(3)	(3)	(3)	30	36	57
Souris, P.E.I.	1,063	1,114	(1)	1	2	(1)	95	83
Olds, Alta.	1,056	1,337	(1)	5	4	(1)	67	47
Wynyard, Sask.	1,042	1,080	(1)	1	1	(1)	74	33
Kindersley, Sask.	1,037	990	(1)	4	3	(1)	46	46
Stonewall, Man.	1,031	1,020	1	1	1	48	52	16
Parkhill, Ont.	1,030	947	1	(3)	(3)	65	17	24
Innisfail, Alta.	1,024	1,223	(1)	6	5	(1)	48	33
Pincher Creek, Alta.	1,024	994	(1)	2	(1)	(1)	53	(1)
Stayner, Ont.	1,019	1,085	(1)	(3)	(3)	(1)	10	10
Port Hawkesbury, N.S.	1,011	1,031	(1)	—	1	(1)	—	161
Herbert, Sask.	1,009	875	(1)	2	(1)	(1)	42	(1)
Radville, Sask.	1,005	813	(1)	1	(1)	(1)	51	(1)
Killarney, Man.	1,003	1,051	(1)	1	(1)	(1)	50	(1)
Fort Saskatchewan, Alta.	1,001	903	(1)	1	(1)	(1)	18	(1)
Joggins, N.S.	1,000	1,109	2	1	1	85	58	47

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TABLE 27—PROPORTION PER 1,000 DEATHS OF CHILDREN UNDER ONE YEAR OF AGE OCCURRING IN EACH AGE PERIOD IN CANADA, 1926-40.

TABLE 28A—DEATHS OF CHILDREN UNDER ONE YEAR OF AGE AND INFANT MORTALITY RATES PER 100,000 LIVE BIRTHS,
BY PRINCIPAL CAUSES OF DEATH, IN CANADA, 1926-40.

Causes of death	NUMBER OF DEATHS										1939	1940	
	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935			
Measles.....	263	187	89	172	212	56	119	60	73	181	115	268	69
Scarlet fever.....	25	25	20	30	14	13	12	7	15	11	11	91	68
Whooping cough.....	773	640	469	454	686	502	389	605	599	392	11	11	14
Diphtheria.....	48	48	43	49	54	27	19	11	11	11	24	485	6
Influenza.....	944	714	830	1,224	468	691	667	747	399	676	11	392	382
Erysipelas.....	101	95	91	100	83	63	68	60	58	53	69	576	472
Poliomyelitis and polioencephalitis (acute).....	9	24	21	15	22	20	19	5	3	7	4	9	12
Epidemic cerebrospinal meningitis.....	57	64	51	64	61	62	30	24	23	25	15	24	10
Tuberculosis.....	239	193	195	207	229	195	174	150	138	147	158	149	144
Syphilis.....	128	131	129	149	204	173	190	165	165	182	207	207	202
Convulsions.....	440	441	348	316	291	281	234	198	195	184	162	139	103
Bronchitis.....	150	134	127	137	119	104	92	77	66	83	76	66	50
Pneumonia.....	2,487	2,150	2,209	2,394	2,266	2,164	1,842	1,759	1,794	1,883	1,750	1,914	1,843
Diseases of the stomach.....	2,982	3,02	2,443	2,245	1,99	151	159	139	115	106	110	95	78
Diarrhoea and enteritis (a).....	4,318	4,249	3,899	3,709	4,529	4,004	2,842	2,476	2,711	1,978	1,634	2,865	1,751
Hernia, intestinal obstruction.....	107	105	88	109	103	69	59	69	73	80	73	59	59
Congenital malformations.....	1,412	1,256	1,299	1,324	1,344	1,317	1,225	1,286	1,218	1,263	1,259	1,306	1,325
Congenital debility (b).....	2,553	2,368	2,338	2,322	2,104	1,899	1,573	1,441	1,344	1,192	1,165	1,116	1,143
Premature birth.....	5,083	4,402	4,579	4,483	4,516	4,325	3,958	3,608	3,386	3,528	3,466	3,458	3,300
Injury at birth.....	949	1,009	1,017	998	1,227	1,234	1,077	949	960	936	861	861	932
Other diseases peculiar to early infancy (c).....	1,507	1,454	1,276	1,333	1,105	1,561	1,324	1,339	1,246	1,224	1,113	1,209	1,156
Other specified causes.....	1,860	1,871	1,672	1,690	1,723	1,268	1,113	1,153	1,110	1,212	1,166	1,235	1,116
Ill-defined causes.....	158	138	152	166	172	153	119	180	170	165	170	151	151
All causes.....	23,692	22,010	21,195	21,674	21,742	20,360	17,263	16,284	15,870	15,730	14,574	16,693	14,517

(1) There is some variation in the comparison factor between figures for the years 1926-30 and the years 1931-40 due to the disturbance in distribution caused by the revision of the International List of Causes of Death. Adjustments have been made to correct the demographic error as closely as possible.

TABLE 28B—DEATHS OF CHILDREN UNDER ONE YEAR OF AGE AND INFANT MORTALITY RATES PER 100,000 LIVE BIRTHS,
BY PRINCIPAL CAUSES OF DEATHS, IN CANADA, 1926-40—Continued.

Causes of death	RATES PER 100,000 LIVES BIRTHS														
	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
Measles.....	113	80	38	73	87	.23	50	27	33	82	52	122	40	30	28
Scarlet fever.....	11	15	11	12	6	5	5	5	3	7	5	5	6	6	2
Whooping cough.....	332	273	198	282	209	144	174	273	270	178	220	146	166	146	193
Diphtheria.....	20	20	18	20	22	11	9	5	5	5	11	9	14	14	5
Influenza.....	406	305	351	520	192	287	283	335	180	305	261	426	226	326	245
Erysipelas.....	43	41	38	42	34	26	29	27	26	24	31	10	7	7	4
Polyomyelitis and polioencephalitis (acute).....	4	10	9	6	9	8	8	2	1	3	2	4	2	3	(a)
Epidemic cerebrospinal meningitis.....	24	27	22	27	25	26	13	11	10	11	7	11	9	8	7
Tuberculosis.....	103	82	82	88	94	81	74	67	62	66	72	68	63	47	36
Syphilis.....	55	56	54	63	84	72	81	74	75	82	94	92	45	37	31
Convulsions.....	189	188	147	134	120	117	99	89	88	83	74	63	61	60	63
Bronchitis.....	64	57	54	58	49	43	39	35	30	37	34	30	29	22	29
Pneumonia.....	1,069	918	933	1,017	931	900	782	789	811	850	794	869	803	764	760
Diseases of the stomach.....	121	129	103	104	82	63	67	62	52	48	50	43	34	32	25
Diarrhoea and enteritis (a).....	1,855	1,814	1,647	1,576	1,860	1,665	1,206	1,111	1,225	893	741	1,301	763	693	504
Hernia, intestinal obstruction.....	40	45	37	46	42	29	25	31	33	36	33	27	28	26	27
Congenital malformations.....	607	536	549	562	552	548	520	568	550	570	571	593	566	577	577
Congenital debility (a).....	1,011	1,011	988	986	864	790	667	647	607	538	529	507	498	490	405
Premature birth.....	2,184	1,880	1,934	1,904	1,855	1,799	1,679	1,619	1,593	1,573	1,573	1,438	1,308	1,307	
Injury at birth.....	408	431	430	424	504	513	457	426	434	423	391	391	406	390	
Other diseases peculiar to early infancy (a).....	647	621	539	566	454	649	562	601	563	505	549	504	486	483	
Other specified causes.....	799	706	718	708	527	472	517	502	547	529	561	549	492	454	
All causes.....	10,179	9,398	8,952	9,207	8,929	8,467	7,325	7,307	7,171	7,103	6,613	7,580	6,327	6,074	5,641

(a) There is some variation in the comparison factor between figures for the years 1926-30 and the years 1931-40 due to the disturbance in distribution caused by the revision of the International List of Cause of Death. Adjustments have been made to correct the demographic error as closely as possible.

(b) Less than one per 100,000 live births.

CHAPTER VI

Neo-Natal Mortality

It has been shown in the previous chapter that the greatest proportion of Canadian children die in the first month of life or in what is known as the "neo-natal period". In Chart 11 it will be seen that of this group of infants by far the greater number, from 1931 to 1940, died during the first week of life and that, roughly speaking, 50 per cent of these infant deaths occurred before the end of the day upon which they were born. Thus, the chart indicates that for the Canadian child, even during the first month of its existence, the expectation of life is greater as the child ages.

The numerical distribution of neo-natal deaths by five-year averages from 1926 to 1940 was as follows:

Age at Death	Averages		
	1926-30	1931-35	1936-40
Under 1 day.....	4,003	3,057	2,607
1 day and under 1 week.....	3,471	2,995	2,771
1 week and under 2 weeks.....	1,264	1,051	844
2 weeks and under 3 weeks.....	946	733	555
3 weeks and under 1 month.....	846	671	519
Under 1 month.....	10,530	8,507	7,296

Although there has been a marked decline in the total infant mortality in most countries of the world, it has been stated that any improvement has taken place almost entirely between the ages of one and twelve months, while the trend under one month has remained relatively stationary, but the figures in Table 29 tend to discredit this statement insofar as the experience in Canada is concerned. In 1926 the neo-natal crude death rate per 1,000 live births was 48 and during the fifteen years there has been a generally maintained downward trend in the rate curve to 30 per 1,000 live births in 1940. Except in the Maritimes where the rate has tended to fluctuate considerably, it will be seen that the provincial experience has followed closely that of the country as a whole. For instance, Manitoba had a rate of 40 in 1926 which had reduced in line to 24 in 1940; Saskatchewan had a rate in 1926 of 40 which by 1940 was reduced to 26; Alberta with a rate of 43 in 1926 experienced a steady decrease to 25 in 1940, while Quebec with a rate of 59 per 1,000 live births in 1926 likewise maintained a steady decrease to 35 in 1940.

During the review period some 131,668 Canadian babies died before reaching the age of one month, or an average annual wastage of 8,778.

CAUSES OF DEATH.—The causes of death during the first month of life are for the most part attributable to the so-called "congenital diseases"—prematurity, malformations, debility, diseases resulting from infections transmitted through the mother and the other conditions peculiar to early infancy and childbirth.

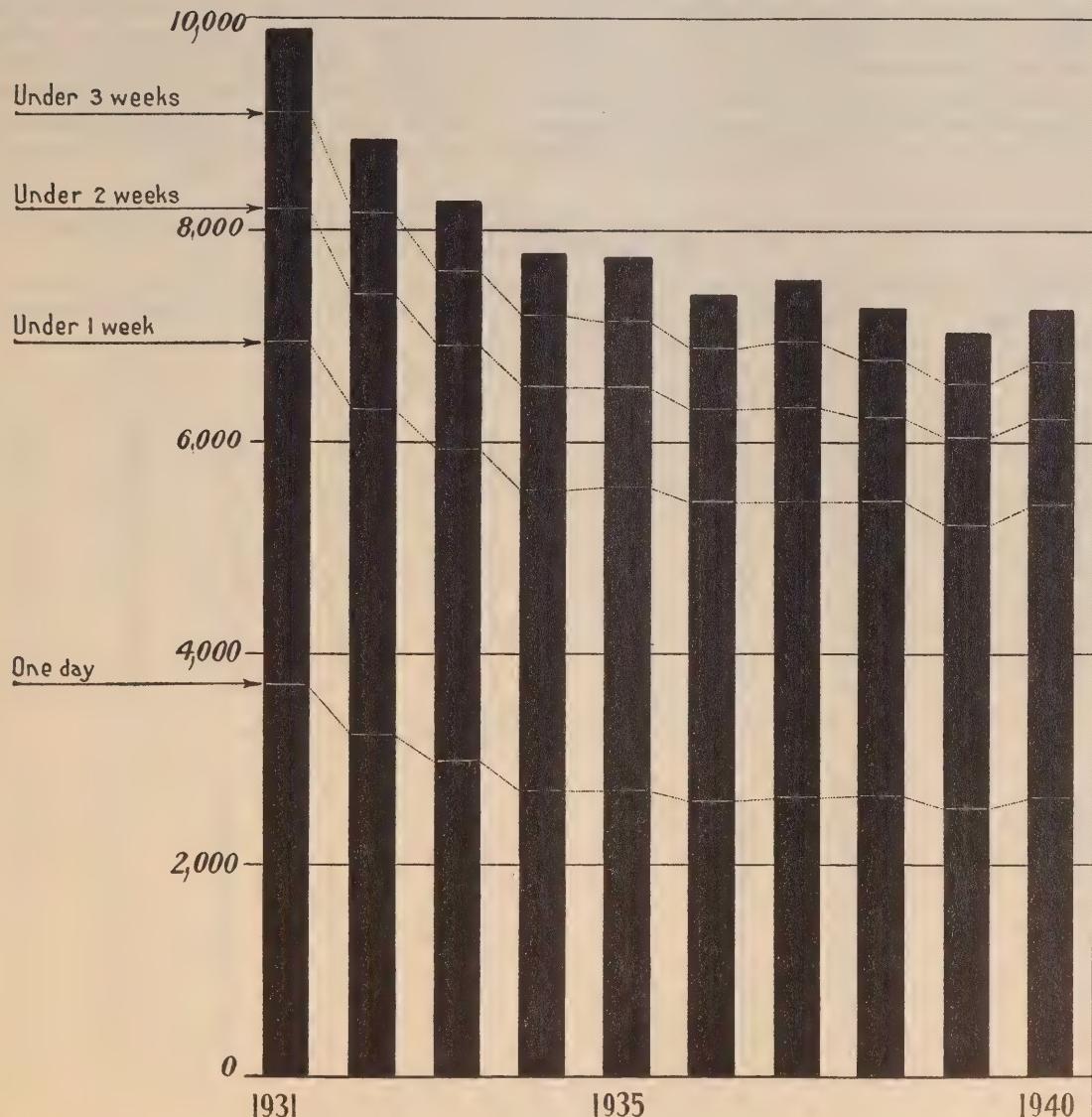
In Table 30 are shown the number of deaths of children under one month of age in Canada, classified by cause of death together with the crude rates per 100,000 live births for each cause, from 1926 to 1940. It will be seen that Premature Birth causes by far the greater proportion of deaths in the first month of life but that a very decided improvement has been evidenced over the review period. In 1926 there were 4,736 deaths from this cause with a rate of 2,035 per 100,000 live births, as against 2,900 deaths and a rate of 1,187 in 1940. The second principal cause of neo-natal deaths at the beginning of the review period was Congenital Debility with 1,496 deaths or a rate per 100,000 live births of 643 in 1926; however, by 1940, among the very young infants this cause of death had dropped to fifth place with a total of 729 deaths or a rate of 298 per 100,000 live births. Other Diseases Peculiar to Early Infancy was the third principal cause of neo-natal deaths in 1926 with 1,196 total deaths and a rate of 514, and although this group of diseases has shown an improvement over the fifteen-year period the rate of 392 or a total of 958 deaths in 1940 placed them in second ranking place among the chief causes of neo-natal deaths.

The fourth principal cause of neo-natal deaths in 1926 was Congenital Malformations with a rate per 100,000 live births of 421 or a total of 980 deaths. This cause of death has remained in fourth place and has tended to show a number of variations during the fifteen years, with a general downward tendency to 1940 when the total deaths stood at 879—and a rate of 360 placed this cause in fourth ranking position at the end of the review period. The fifth principal cause of death among infants in the first month of life in 1926 was Injury at Birth with a total of 928 deaths and a rate of 399 per 100,000 live births. Although the rate stood at 367 for a total of 896 deaths in 1940, placing it in third place, the rates for this important cause of mortality have shown a remarkable tendency to fluctuate very considerably during the review period, as instanced by the rates of 497 in 1930; 507 in 1931; 422 in 1934; 374 in 1936 and 415 in 1938.

Chart II

NEO-NATAL MORTALITY

Deaths under one month
At each age period
1931-1940



In 1926 Diarrhoea and Enteritis caused the deaths of 383 infants with a death rate of 165 per 100,000 live births. The figures for the review period reflect the advances in bacteriology and the improvements in general hospital techniques for the newborn by the very marked decrease in the death rates from this disease, for, with one single exception (1937), the rate dropped rapidly to 61 per 100,000 live births in 1940 or a total of 150 deaths. Pneumonia has shown some improvement during the review period as a cause of neo-natal deaths; in 1926 the rate stood at 127 for a total of 296 deaths and in 1940 there were 250 deaths with a rate of 102 per 100,000 live births, but three peak years are evident in the table (1927, with a rate of 135; 1929, with a rate of 132; and 1931, with a rate of 149).

Other causes of death of infants during the first month of life which have shown an improvement from 1926 to 1940 are Influenza (from 51 to 25 per

100,000 live births); Convulsions (from 79 to 22 per 100,000 live births); Whooping cough (from 22 to 14 per 100,000 live births) and Diseases of the Stomach (from 31 to 9 per 100,000 live births).

The Vital Statistics of Canada indicate that many of the conditions causing infant deaths during the first week of life are closely related to the condition of the baby at birth and are due for the most part to pre-natal and intra-natal factors. While the figures and Charts tend to show a general improvement in neo-natal mortality for the country as a whole they stress the urgent need for further improvement in facilities for the care of the Canadian child during the first week of life, as well as prior to, during, and immediately after, delivery. It is most evident that a national pre-natal and post-natal programme would go far towards reducing infant deaths in this early and extremely dangerous period of human existence.

TABLE 29—DEATHS OF CHILDREN UNDER ONE MONTH OF AGE AND DEATH RATES PER 1,000 LIVE BIRTHS IN CANADA, BY PROVINCES, 1926-40.

Year	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
NEO-NATAL MORTALITY										
1926.....	11,091	61	421	476	4,824	2,935	590	838	620	326
1927.....	10,532	38	445	456	4,512	2,778	528	839	602	334
1928.....	10,349	42	427	441	4,467	2,705	531	788	646	302
1929.....	10,430	55	409	495	4,266	2,849	510	885	660	301
1930.....	10,247	62	412	455	4,263	2,761	524	859	623	288
1931.....	9,897	53	468	454	4,130	2,585	511	771	647	278
1932.....	8,845	61	440	392	3,567	2,380	447	753	547	258
1933.....	8,271	68	409	400	3,334	2,144	421	695	534	266
1934.....	7,777	71	436	384	3,215	1,953	381	627	489	221
1935.....	7,747	72	414	379	2,966	2,122	419	613	514	248
1936.....	7,393	74	369	412	2,988	1,935	381	543	466	225
1937.....	7,527	72	357	470	2,964	1,931	371	592	492	278
1938.....	7,268	48	363	430	2,970	1,887	369	484	425	292
1939.....	7,038	83	348	416	2,885	1,777	391	485	380	273
1940.....	7,256	71	390	453	2,954	1,805	356	497	434	296
RATE PER 1,000 LIVE BIRTHS										
1926.....	48	35	38	46	59	43	40	40	43	32
1927.....	45	22	40	44	54	41	37	40	40	33
1928.....	44	23	39	44	53	39	37	37	41	29
1929.....	44	33	38	48	52	42	36	41	39	29
1930.....	42	35	36	43	51	39	36	39	35	27
1931.....	41	28	40	42	49	37	36	36	38	27
1932.....	38	30	38	36	43	36	32	36	32	25
1933.....	37	35	37	40	43	34	32	34	33	28
1934.....	35	37	38	38	42	31	29	32	30	23
1935.....	35	36	36	36	39	34	31	31	32	25
1936.....	34	37	31	39	40	31	30	28	30	21
1937.....	34	34	31	44	39	31	29	32	31	25
1938.....	32	29	30	38	38	29	27	27	27	23
1939.....	31	39	29	37	36	28	29	27	23	22
1940.....	30	34	30	39	35	26	24	26	25	21

TABLE 30A—DEATHS OF CHILDREN UNDER ONE MONTH OF AGE AND NEO-NATAL MORTALITY RATES PER 100,000 LIVE BIRTHS,
BY PRINCIPAL CAUSES OF DEATH, IN CANADA, 1926-40.

Causes of Death	NUMBER OF DEATHS										1939	1940	
	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935			
Measles.....	12	11	3	8	5	6	7	—	6	10	3	3	5
Scarlet fever.....	—	1	—	—	1	—	—	—	1	1	—	—	4
Whooping cough.....	52	40	27	26	39	29	19	21	36	33	18	18	34
Diphtheria.....	6	5	3	2	3	4	1	1	1	3	1	1	1
Influenza.....	119	106	105	168	52	106	94	108	50	74	59	126	98
Erysipelas.....	24	24	24	19	22	13	12	15	15	13	7	5	6
Poliomyelitis and polioencephalitis (acute).....	1	1	—	1	—	—	1	1	—	—	—	—	—
Epidemic cerebrospinal meningitis.....	4	8	1	6	2	2	4	—	—	1	1	1	1
Tuberculosis.....	28	52	31	52	52	65	68	61	46	57	52	42	34
Syphilis.....	185	194	129	117	107	104	95	85	82	85	61	48	49
Convulsions.....	32	25	26	18	22	23	22	17	15	15	12	8	9
Bronchitis.....	296	317	270	311	312	359	262	256	249	272	228	248	254
Pneumonia.....	71	59	46	60	42	35	37	31	26	22	19	219	250
Diseases of the stomach.....	383	393	422	427	444	338	348	243	280	202	172	235	23
Diarrhoea and enteritis (v.).....	13	16	18	12	18	8	3	4	4	1	2	147	150
Hernia, intestinal obstruction.....	980	878	942	906	882	797	848	783	806	786	805	825	825
Congenital malformations.....	1,496	1,585	1,479	1,515	1,335	1,199	1,021	993	905	807	834	808	820
Congenital deformity (v.).....	4,736	4,085	4,262	4,128	4,187	4,045	3,701	3,368	3,093	3,193	3,111	2,979	2,704
Premature birth.....	923	980	1,001	974	1,209	1,220	1,053	919	933	825	832	952	885
Injury at birth.....	1,196	1,257	1,133	1,222	997	1,128	1,006	1,000	965	933	851	916	865
Other diseases peculiar to early infancy (v.).....	1,471	442	401	416	426	280	256	261	248	263	244	238	257
Other specified causes.....	51	17	19	35	38	34	28	38	41	38	51	62	50
All causes.....	11,091	10,532	10,349	10,430	10,247	9,897	8,845	8,271	7,777	7,747	7,393	7,527	7,038
													7,256

(v) There is some variation in the comparison factor between figures for the years 1926-30 and the years 1931-40 due to the disturbance in distribution caused by the revision of the International List of Causes of Death. Adjustments have been made to correct the demographic error as closely as possible.

TABLE 30B—DEATHS OF CHILDREN UNDER ONE MONTH OF AGE AND NEO-NATAL MORTALITY RATES PER 100,000 LIVE BIRTHS,
BY PRINCIPAL CAUSES OF DEATH, IN CANADA, 1926-40—Continued.

Causes of Death	RATES PER 100,000 LIVE BIRTHS														
	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
Measles.....	5	5	1	3	2	2	3	3	—	3	5	1	6	1	2
Scarlet fever.....	—	(2)	—	—	(2)	—	(2)	—	(2)	—	(2)	—	(2)	—	—
Whooping cough.....	22	17	11	11	16	12	8	9	—	—	—	—	—	—	—
Diphtheria.....	3	2	1	1	1	2	—	—	—	—	—	—	—	—	—
Influenza.....	51	45	44	71	21	44	40	48	33	33	57	22	43	—	—
Erysipelas.....	10	10	10	10	8	9	6	5	7	6	3	2	2	2	2
Poliomyelitis and polioencephalitis (acute).....	(2)	(2)	—	(2)	—	(2)	(2)	(2)	—	—	—	—	—	—	—
Epidemic cerebrospinal meningitis.....	2	3	3	1	4	3	1	2	—	—	(2)	(2)	(2)	(2)	—
Tuberculosis.....	3	3	3	13	22	34	27	29	21	26	24	19	14	2	1
Syphilis.....	12	22	13	22	50	44	43	40	38	37	38	28	22	15	11
Convulsions.....	79	83	54	50	44	43	40	38	—	—	—	—	—	—	—
Bronchitis.....	14	11	11	8	9	9	9	8	7	7	7	5	3	4	6
Pneumonia.....	127	135	114	132	128	149	111	115	113	123	103	113	95	111	102
Diseases of the stomach.....	31	25	19	25	17	15	16	14	12	10	10	10	8	7	9
Diarrhoea and enteritis (1).....	165	178	181	182	141	148	109	127	91	78	70	64	61	61	61
Hernia, intestinal obstruction.....	6	7	8	5	7	3	1	1	2	(2)	1	1	—	—	—
Congenital malformations.....	421	375	398	385	367	338	380	354	366	357	351	360	360	360	360
Congenital deformity (2).....	643	677	625	644	548	499	433	446	409	364	352	357	357	357	357
Premature birth.....	2,035	1,744	1,800	1,763	1,720	1,682	1,570	1,511	1,398	1,442	1,425	1,443	1,298	1,178	1,187
Injury at birth.....	399	418	423	414	497	507	447	412	422	408	374	378	415	386	367
Other diseases peculiar to early infancy (3).....	514	537	479	519	409	469	427	449	436	421	386	416	388	377	392
Other specified causes.....	202	202	169	177	175	116	109	117	112	107	111	104	112	94	94
All causes.....	4,765	4,497	4,371	4,430	4,208	4,116	3,753	3,711	3,514	3,498	3,355	3,418	3,168	3,067	2,970

(1) There is some variation in the comparison factor between figures for the years 1926-30 and the years 1931-40 due to the disturbance in distribution caused by the revision of the International List of Causes of Death. Adjustments have been made to correct the demographic error as closely as possible.

(2) Less than one per 100,000 live births.

CHAPTER VII

Maternal Mortality

Deaths during the pregnancy period are accidental in character, being due to infections, injuries or some abnormal condition in the mother. A goodly proportion of maternal deaths may be attributable to diseases contracted during the childhood of the mother which have resulted in deformities of the pelvis and other conditions, thereby complicating normal delivery of the baby.

Rosenau¹ says that the death toll of women during the hazards of child-bearing does not reveal the whole story because—

“...every death from sepsis represents about ten mothers who become infected but recover with varying degrees of disability”.

During the review period, 6,058 deaths of Canadian mothers were caused by puerperal sepsis, so that if Rosenau's estimate is a fair index of the true situation, then our Canadian maternal wastage should be increased by some 54,000 from this one cause alone over the fifteen years 1926 to 1940, as this number of Canadian mothers will have suffered to some degree from the effects of infections contracted during childbirth. In the public health sense, puerperal infection is considered a communicable disease. Given ideal conditions and with an intelligent vigilance during the natality period, many of the causes of puerperal sepsis could be eliminated.

INTERNATIONAL COMPARISONS. — Table 31 shows the maternal mortality rates per 1,000 live births for some of the countries of the world for the three year period 1935, 1936 and 1937. Of the 28 countries for which maternal mortality statistics are available, Canada ranked twentieth in 1935, nineteenth in 1936, and twenty-first in 1937, with respect to a low maternal mortality rate. This would seem to indicate that there is considerable room for improvement in Canadian maternal mortality when considered in relation to what is being accomplished in other countries.

Maternal mortality is the statistical measurement of deaths during the child-bearing period in the lives of our Canadian mothers. Child-bearing, for every healthy-born woman, is a physiological process. Yet, according to the figures in Table 32, from 1926 to 1940, 17,678 mothers died during childbirth or from conditions which developed during the pregnancy period—an average annual wastage of 1,179. The causation factors of death among females during the reproduction period are commonly referred to as

“puerperal causes”. Puerperal deaths over the fifteen year review period averaged 1 per cent of all deaths. Much of this maternal wastage of our Canadian mothers is preventable and even though impressive results have crowned the concerted efforts of the public health departments and the private welfare agencies in this direction, the maternal mortality rate in Canada is excessive. Maternal wastage is usually measured by the ratio of deaths from puerperal causes to every 1,000 children born alive in a community each year.

The fifteen year trend in Canadian maternal mortality experience is illustrated in Chart 12 and shows that the maternal death rate for Canada remained fairly stable for the first five years of the review period, although there was a slight upward trend to 1930 when the rate stood at 5.8. Since 1931 there has been a decided improvement except for the years 1934 and 1936 when two peaks (5.3 and 5.6) appeared in the downward trend. Since 1937 the downward trend in Canada's maternal mortality rate has been most striking and encouraging. The rate per 1,000 live births in 1926 stood at 5.7 (based on 1,317 maternal deaths to 232,750 live births), while the 1940 rate of 4.0 was the lowest ever recorded in Canada. There was a 30 per cent decline in the rate from 1926 to 1940.

There has been a wide variation in provincial comparisons from East to West over the fifteen year review period from a high rate of 7.8 in 1929 for Prince Edward Island to a low of 3.1 in British Columbia in 1939 and 1940. Table 32 shows the distribution of maternal deaths and maternal mortality death rates per 1,000 live births in Canada by provinces, for the years 1926-40 inclusive.

RURAL AND URBAN DISTRIBUTION. — The distribution of maternal mortality, as between rural and urban (cities, towns and villages in excess of 1,000 population) was not tabulated for individual places in Canada, prior to 1941. It was found that the incidence of maternal mortality in cities of less than 40,000 population was too small to warrant the extensive computations required for the detailed distribution by individual localities.

The Census of 1931 showed that there were sixteen cities in Canada where the population was in excess of 40,000 people. Table 33 shows the number of maternal deaths and the rate per 1,000 live births within these urban areas of population, by five year

¹ Rosenau, Milton J. — Preventive Medicine and Hygiene, Page 610.

averages, 1926-30; 1931-35 and 1936-40. Montreal, Canada's first city in size of population has shown a decrease in its maternal mortality rate for each successive quinquennial period. An average of 126 deaths yearly from 1926 to 1930 gave the city an average rate of 6.2, but in the quinquennial period 1936 to 1940 the yearly average of 98 deaths showed the rate reduced to 5.4. Toronto recorded an annual average of 95 deaths or a rate of 7.8 during the period 1926 to 1930, while the yearly average of 50 deaths from 1936 to 1940, gave Canada's second largest city an average maternal mortality rate of 4.8. On the Pacific Coast, Vancouver, the third city in size in population in the Dominion, from 1926 to 1930 had an annual average of 26 deaths or a rate of 6.9 per 1,000 live births, but by 1936 to 1940 the average annual rate had dropped to 3.5 or 14 deaths. This downward trend is generally reflected in the other larger centres. In fact only two cities in the group indicate reverse tendencies.

The figures in the following table show the distribution of rural and urban maternal mortality for Canada, by provinces for 1939 and 1940.

Year	Canada	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
RURAL										
1939	314	10	12	29	114	54	21	34	23	17
1940	311	2	16	21	118	53	18	35	34	14
URBAN										
1939	653	6	37	25	255	222	26	25	36	21
1940	667	4	38	35	259	201	39	27	35	29

SIX MAJOR CAUSES OF Puerperal Deaths

	Group Causes	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
146, 147	Albuminuria and eclampsia and other toxæmias.	23.9	21.7	22.6	22.3	24.2	24.9	25.2	24.1	24.0	23.9
140	Puerperal sepsis.....	36.5	35.0	34.3	36.1	35.9	36.3	35.9	31.7	32.1	28.3
142a, 145	(a) Due to abortion	10.2	10.5	11.2	11.1	11.7	10.9	12.5	10.5	11.2	8.7
	(b) Not due to abortion	26.3	24.5	23.1	25.0	24.2	25.3	23.4	21.2	20.9	19.6
141	Abortion — Non-septic	4.0	2.4	2.3	3.4	3.8	4.3	2.4	4.4	3.3	4.0
144	Puerperal haemorrhage.....	11.3	15.8	15.8	14.4	12.7	12.5	12.0	13.8	16.5	14.1
149	Other accidents of childbirth.....	7.2	10.5	10.9	11.9	11.3	10.5	10.5	9.9	9.1	8.3
142b	All other causes.....	17.2	14.6	14.1	11.9	12.1	11.6	14.0	16.0	15.0	21.4
143	Ectopic gestation.....	2.5	2.9	2.6	2.8	2.6	2.5	2.3	3.1	2.1	2.6
148	Other accidents of pregnancy.....	0.9	1.1	0.7	1.0	0.7	0.5	1.7	1.4	1.4	1.0
150	Phlegmasia alba dolens.....	11.6	9.5	10.3	7.5	7.9	7.7	9.1	11.1	10.4	16.0
	Other unspecified causes.....	2.2	1.2	0.5	0.5	0.9	0.9	0.9	0.4	1.0	1.8
	TOTAL.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

It will be seen that for Canada as a whole, maternal mortality in urban areas was 108 in 1939 and 114 per cent higher in 1940 than in the rural areas and that in the rural areas of Quebec and British Columbia roughly the same proportions hold true. In Ontario the variation is far greater as urban maternal mortality exceeded the rural maternal mortality by 311 in 1939 and 279 per cent in 1940. This was also the case in Nova Scotia where urban exceeded rural by 208 in 1939 and 138 per cent in 1940. In the other provinces the variations were less marked.

AGE GROUP INCIDENCE. — Table 34 shows the number of deaths of Canadian mothers by age at death in five-year age groups, together with the percentage distribution for each group from 1926 to 1940, while Chart 13 illustrates that the majority of maternal deaths over the past fifteen years have occurred between the ages of 25 and 39. The chart shows that over the fifteen year period there is very little variation between the three groups 25-29 years, 30-34 years and 35-39 years; that each age group claims annually, roughly 22 per cent of all maternal deaths. In the age group 20-24, the annual average has been around 17 per cent.

CAUSES OF PUERPERAL DEATHS. — The six major groupings of causes of puerperal deaths, as set forth in the International List of Causes of Death, are: "Toxaemias of Pregnancy", "Puerperal Sepsis", "Abortions", "Puerperal Haemorrhage", "Other Accidents of Childbirth", and "Other Causes of Puerperal Deaths". The percentage distribution of maternal deaths by the six main groups of causes from 1931 to 1940 was as follows:

Chart 12

MATERNAL MORTALITY
CANADA

1926 - 1940

Rates per 1000 Live Births

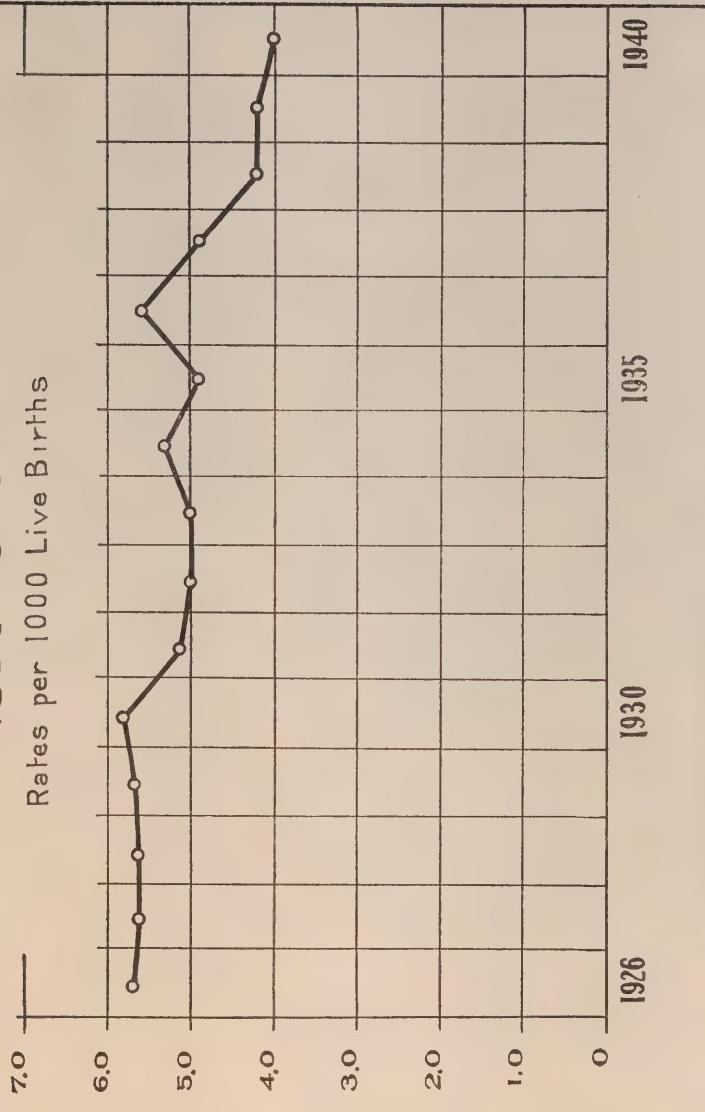


Chart 14 shows the percentage distribution of the six group-causes of death among Canadian mothers during the child-bearing period, from 1926 to 1940.

The most hazardous of all conditions which may be experienced by Canadian mothers is the highly infectious puerperal septicaemia (sepsis). Nearly all public health authorities consider this infection to be a communicable disease and quite often sepsis has assumed the characteristics of an epidemic. To quote Oliver Wendell Holmes²:

"The disease known as puerperal fever is so far contagious as to be frequently carried from patient to patient by physicians and nurses".

PUERPERAL SEPSIS.—This is the chief cause of maternal deaths. During the ten-year period 1931 to 1940, the percentage of total maternal deaths due to puerperal sepsis has decreased from 36.5 per cent in 1931 to 28.3 in 1940, with a relatively high consecutive four-year period (1934 to 1937) when the proportion was close to 36.0 per cent. (See Chart 15)

It will be seen in Chart 14 that puerperal sepsis was largely responsible for the sudden rise in the maternal mortality rate in 1936. It is worthy of note that the 1936 increase was coincident with the advent of the sulphanilamide drugs in the treatment of septic conditions. Whether there is any relationship between the use of sulpha drugs, and an increase or decrease of deaths from septicaemia is a debatable point, but it is revealed in Chart 14 that there has been a marked decrease in the death toll from puerperal sepsis since sulpha drugs have been more generally used.

Deaths from puerperal sepsis are usually divided into two categories—(a) those due to abortion and (b) those not due to abortion. The former group is shown in Chart 15 to be responsible for 32 per cent of all deaths from puerperal sepsis during the ten years, 1931 to 1940, with a total wastage of 3,776 mothers, or an annual average of 378 deaths.

TOXAEMIAS OF PREGNANCY.—During the ten-year period, 1931 to 1940, toxæmias of pregnancy (which include albuminuria, eclampsia and other toxæmias) claimed an annual average of 24 per cent of all deaths from puerperal causes (see Chart 15). This, however, does not mean that there has been no improvement in the death rate from toxæmias of pregnancy as Chart 14 shows that for the fifteen years, 1926 to 1940, with the exception of 1936, there has been a decided downward trend in the rate. In 1926 the rate stood at 149 per 100,000 live births and by 1940 the rate had dropped steadily to 96. In the one peak year (1936), the rate was 139 and it is of

more than passing interest to note that the rise in the rate for toxæmias was coincident with a similar rise in puerperal sepsis and puerperal haemorrhage rates in the same year.

During the review period, 1926 to 1940, 4,322 Canadian women died as the result of toxæmias of pregnancy, or an annual average of 288. Toxæmias of pregnancy rank second to sepsis as a cause of maternal deaths, but if for the ten years, 1931 to 1940, septic abortion were excluded from the sepsis group (with 2,597 deaths), toxæmias would then (with 2,583 deaths) become the first ranking cause of maternal deaths.

Many toxæmias could be avoided if our Canadian mothers received adequate pre-natal care. It was revealed by the Manitoba Pregnancy Survey³ that only 25 per cent of the mothers received what is considered the recognized minimum of pre-natal care (using five or more visits as a standard); moreover, the percentage was only 17 if the quality of care received is considered (that is, the taking of blood-pressure, weighing of the patient, urinalysis, blood tests, pelvic measurements, etc.). Some authorities claim that if the haemoglobin percentage is kept high through good nutrition and/or medication, toxæmias of pregnancy are much less likely to occur. It has been suggested that the encouraging reduction in deaths from toxæmias of pregnancy is the result of better organized relief in necessitous cases, and the establishment of a greater number and variety of services.

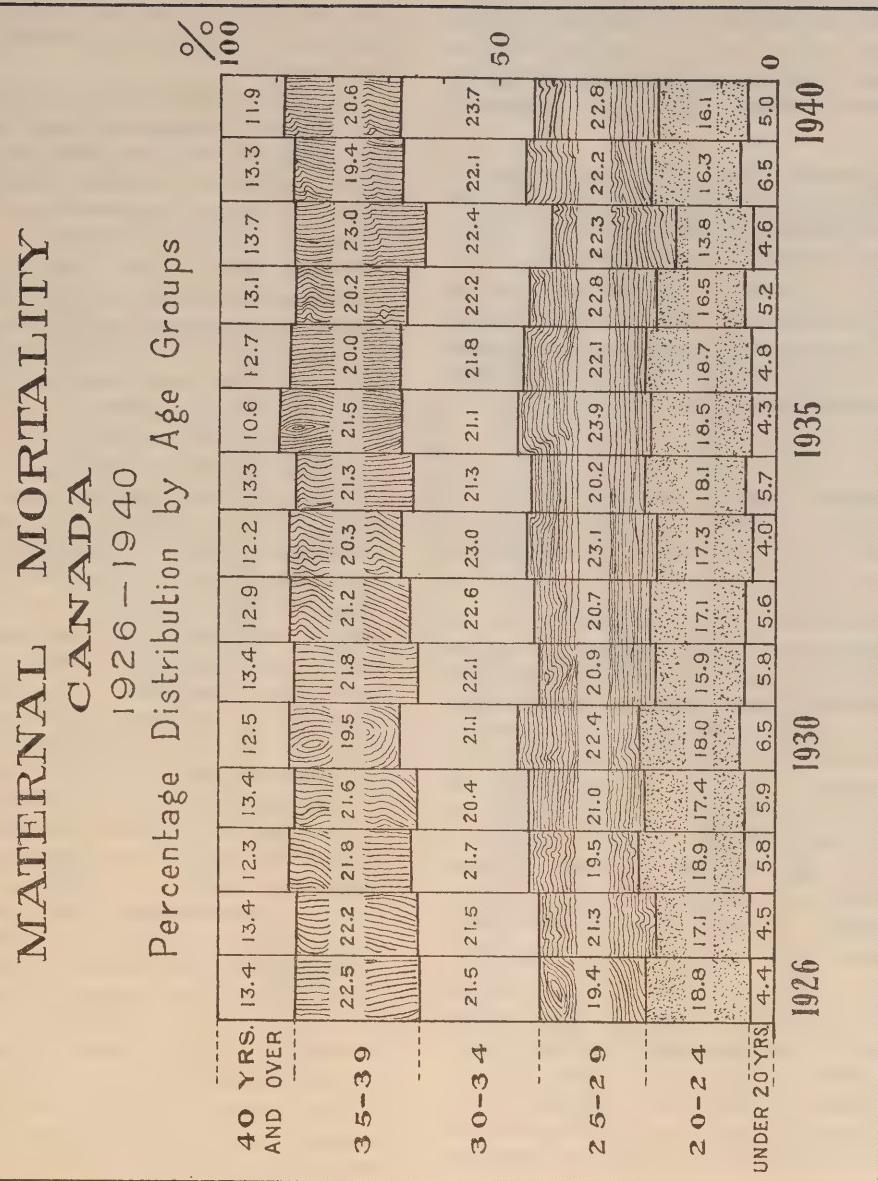
PUERPERAL HAEMORRHAGE.—This group of puerperal deaths is the third largest contributing factor to maternal mortality in Canada. During the ten years (1931-40) the percentage of deaths from haemorrhage to the total maternal deaths has ranged from 11.3 in 1931 to 16.5 in 1939. (See Chart 15) It will be noticed in Chart 14 that from 1926 to 1940 there was very little improvement in the maternal mortality rate from haemorrhage. Several peak years appeared during the 15 year period, notably 1927 (78); 1932 and 1933 (79); 1934 (76); and 1936 and 1939 (70). There seems to be little satisfactory explanation for the advances in the rate during these years. The total Canadian maternal wastage from puerperal haemorrhage from 1926 to 1940 was 2,393, an annual average of 160 deaths.

The Manitoba Pregnancy Survey brought out the fact that there was an insufficient use of blood-transfusions in combatting this chief of the accidents during childbirth. The establishment of blood-

²Holmes, O. W.—On the contagiousness of Puerperal Fever — 1843.

³A survey inaugurated in May, 1938, under the joint auspices of the Rockefeller Foundation, the Governments of Manitoba and Canada and the Canadian Medical Association to study all conditions associated with pregnancy in Manitoba.

Chart 13



banks for emergency maternity cases would undoubtedly prevent an appreciable loss of life and improve the general health of Canadian mothers, subsequent to delivery of their babies.

Special studies and nutritional surveys have revealed that good nutrition during the pre-natal period reduces the danger of haemorrhage during childbirth and the use of a special vitamin (K) has been established as a routine procedure during the course of labour by some of the larger hospitals in Canada.

NON-SEPTIC ABORTION. — The percentage of puerperal deaths due to non-septic abortion during the decade 1931 to 1940 has ranged from 4.4 per cent in 1938 to 2.3 in 1933, as shown in Chart 15.

The trend in the death rate per 100,000 live births for non-septic abortions for the fifteen-year period is shown in Chart 14. The figures reveal a general downward swing from 23 in 1926 to 16 in 1940. For this condition a peak appears in 1936 and is the only change worthy of note.

During the ten-year period, 1931 to 1940, 1,571 potential Canadian mothers died as the result of interference with the normal process of reproduction (septic and non-septic abortions) an average annual wastage of 157.

OTHER ACCIDENTS OF CHILDBIRTH. — During the decade 1931 to 1940 this group of maternal deaths, which includes Caesarean section, dystocia, instrumental delivery, rupture of uterus in parturition and other accidents of labour, has maintained fourth place among the important group-causes of maternal wastage. In 1931 the percentage of "other accidents of childbirth" of the total maternal deaths was 7.2 and in 1940 it was 8.3. Chart 14 reveals that the death rate per 100,000 live births during the fifteen years, 1926 to 1940, has fluctuated very considerably, although, even in this varied group of diseases, a general improvement is apparent.

ALL OTHER CAUSES. — There has been a wide variation in the proportion of deaths in this residual group of causes of maternal deaths during the ten years, 1931 to 1940; viz. from 11.6 in 1936 to 21.4 in 1940. This group includes—ectopic gestation (without mention of septic conditions), other accidents of pregnancy, phlegmasia alba dolens and other unspecified causes.

Phlegmasia alba dolens (including embolism or sudden death) was responsible for the greater pro-

portion of pregnancy deaths in this group, being in fact wholly responsible for the 1940 increase shown in Chart 15 (see also Table 35), when 16.0 per cent (156 deaths) of all the maternal deaths were attributable to phlegmasia alba dolens. Chart 16 reveals the interesting fact that mortality from this cause does not run a parallel course with puerperal sepsis, but quite at variance with the death rate from child-birth infection.

Table 35 further reveals the fact that phlegmasia alba dolens had its highest death rate for the fifteen-year period in the year 1940 (64 per 100,000 live births), whereas the rates for all other conditions of childbirth, except accidents and abortions (non-septic) were lowest in that year.

During the ten years, 1931 to 1940, maternal deaths due to puerperal sepsis, toxæmias of pregnancy and puerperal haemorrhage were responsible for an average of 72 per cent of Canada's maternal mortality. The total maternal wastage over the fifteen-year review period was 12,773, an annual average loss of 852 mothers.

The improvement in Canada's maternal mortality trend may be attributed, among other factors, to the multiplication of pre-natal clinic services, better hospitalization facilities, an increased tendency to seek hospitalization and an improved obstetrical technique. A very considerable proportion of the decrease in maternal death rates from a number of the specific causes has been coincident with the rise of bacteriology—particularly has this been true in the reduction of child-bed fever (puerperal sepsis). Education has played a considerable part in reducing the maternal mortality rate in Canada. The Maternal Mortality Survey of 1926 and 1927, conducted by the Department of Health, Canada, demonstrated in particular the value of factual knowledge in the maternal mortality programme. This survey has proven a corner-stone in the Canadian maternal child welfare programme and has done much to promote the educational policies which have been carried on at all levels of government. Another step in this direction has been the publication of "The Canadian Mother and Child", which is distributed by the Department of Pensions and National Health.

The Canadian Welfare Council has, for a number of years, published valuable educational material on maternal and child care in the form of a pre-natal and post-natal letter service to every Canadian mother. Distribution of the letter service has been made through the Provincial Departments of Health.

Chart 14

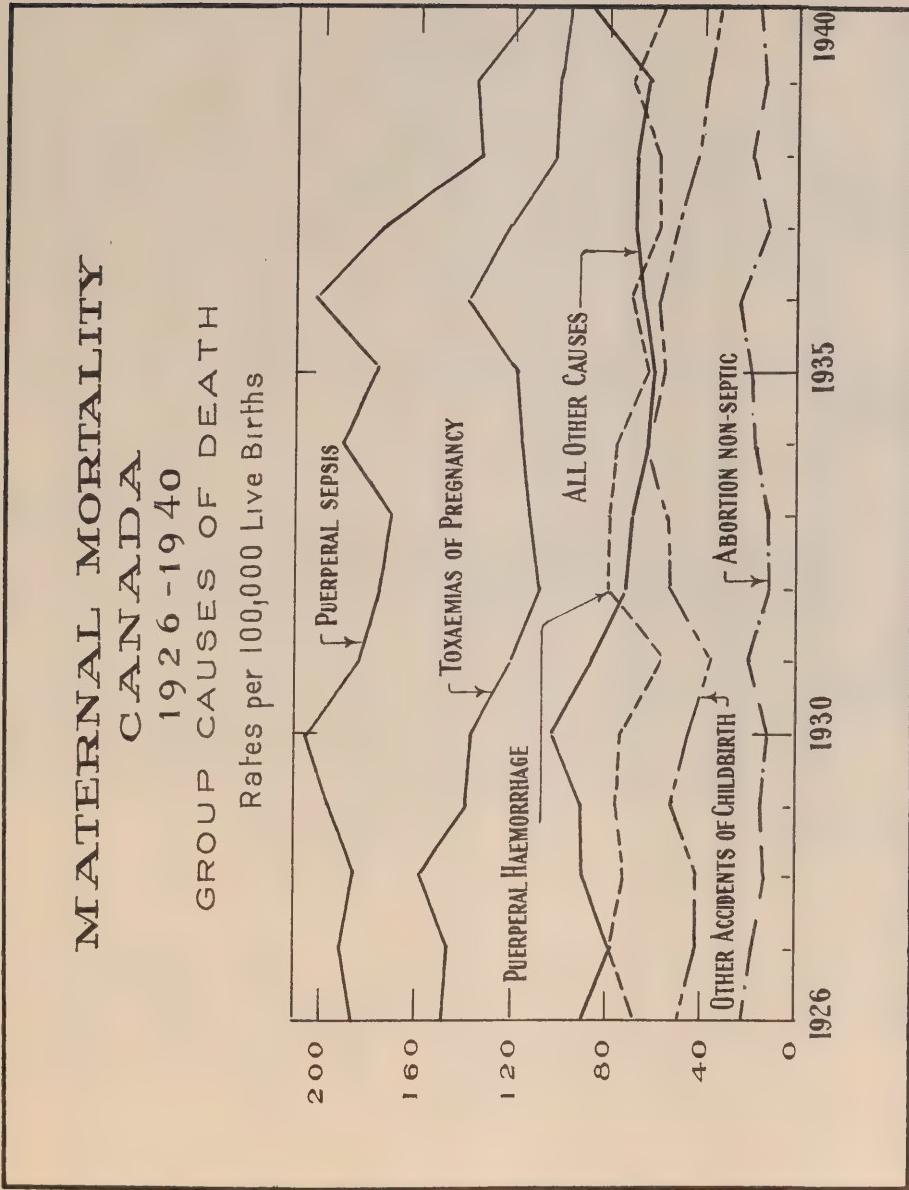


Chart 15

MATERNAL MORTALITY
PERCENTAGE DISTRIBUTION OF CAUSES
OF
DEATH
1931 — 1940

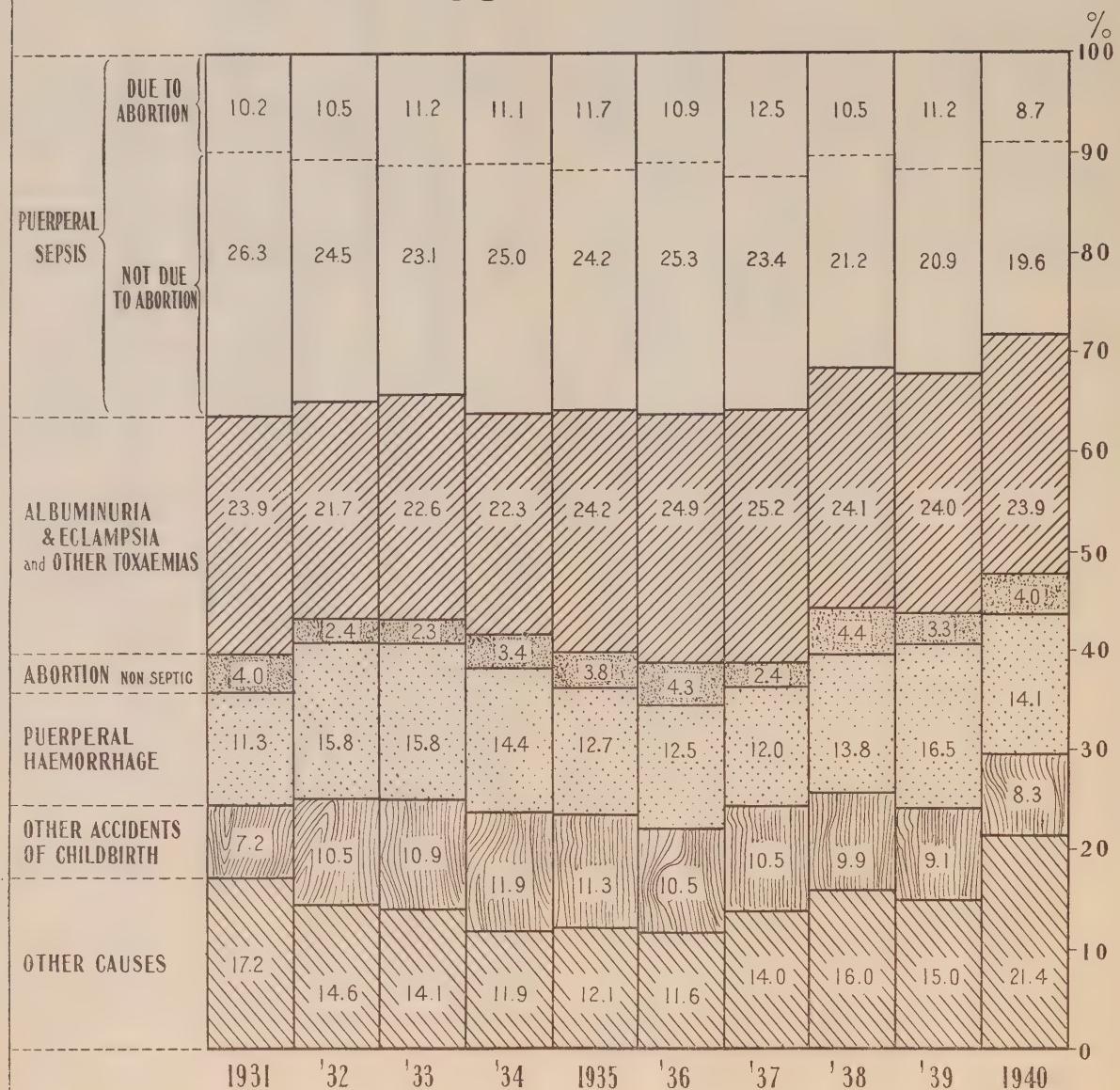


Chart 16

MATERNAL MORTALITY, CANADA

1926 - 1940
PUERPERAL SEPSIS AND PHLEGMASIA ALBA DOLENS

Rates per 100,000 Live Births

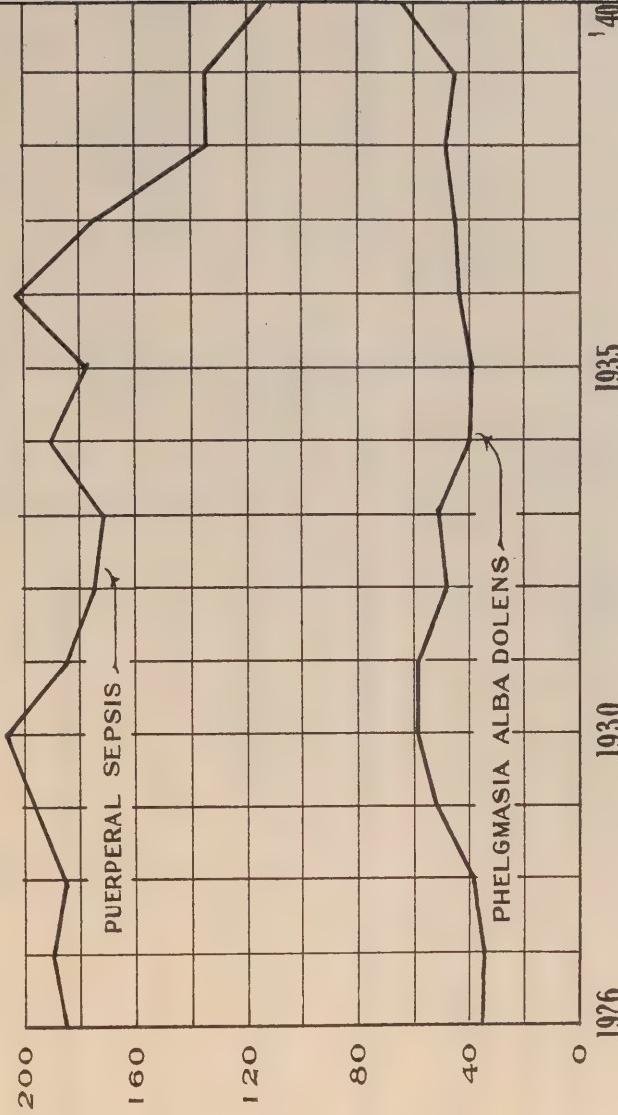


TABLE 31—MATERNAL MORTALITY RATES PER 1,000 LIVE BIRTHS IN VARIOUS COUNTRIES OF THE WORLD,
1935, 1936 AND 1937.

Country	1935	1936	1937	Country	1935	1936	1937
France.....	2.3	2.1	(¹)	Roumania.....	4.4	4.5	4.3
Netherlands.....	3.0	3.0	2.6	Union of South Africa.....	4.7	5.1	4.4
Japan.....	2.6	2.6	(¹)	Switzerland.....	4.5	4.4	4.5
Italy.....	3.0	3.0	2.7	Australia.....	5.3	6.0	4.6
Norway.....	2.8	2.6	3.0	Newfoundland and Labrador.....	3.2	6.3	4.6
Sweden.....	3.1	3.1	(¹)	Scotland.....	6.3	5.6	4.8
England and Wales.....	4.1	3.8	3.3	CANADA.....	4.9	5.6	4.9
Denmark.....	4.0	3.9	3.5	Czechoslovakia.....	4.6	4.9	(¹)
Hungary.....	4.2	4.3	3.5	United States.....	5.8	5.7	4.9
Irish Free State.....	4.7	4.7	3.6	Northern Ireland.....	5.5	6.1	5.0
New Zealand.....	4.2	3.7	3.6	Lithuania.....	7.1	6.1	5.8
Uruguay.....	2.9	2.7	3.7	Costa Rica.....	6.6	6.0	6.4
Belgium.....	4.2	4.6	3.8	Chile.....	8.5	8.5	9.9
Greece.....	4.7	4.2	4.3	Ceylon.....	26.8	21.6	19.9

(1) Not available.

TABLE 32—MATERNAL DEATHS AND MATERNAL MORTALITY RATES PER 1,000 LIVE BIRTHS IN CANADA,
BY PROVINCES, 1926-40.

Year	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
MATERNAL MORTALITY										
1926.....	1,317	8	51	66	427	381	87	147	85	65
1927.....	1,300	4	76	65	403	403	72	114	95	68
1928.....	1,331	11	57	58	444	396	74	124	106	61
1929.....	1,341	13	45	75	430	368	97	132	123	58
1930.....	1,405	5	76	57	463	440	75	112	114	63
1931.....	1,215	13	55	60	400	372	69	93	87	66
1932.....	1,181	13	53	63	421	343	68	102	64	54
1933.....	1,111	8	52	60	381	346	54	92	73	45
1934.....	1,167	10	71	52	418	348	51	86	81	50
1935.....	1,093	8	62	48	405	313	56	80	69	52
1936.....	1,233	11	51	69	450	355	70	86	91	50
1937.....	1,071	12	35	39	397	319	55	86	77	51
1938.....	968	5	51	52	408	251	39	46	68	48
1939.....	967	16	49	54	369	276	47	59	59	38
1940.....	978	6	54	56	377	254	57	62	69	43
RATE PER 1,000 LIVE BIRTHS										
1926.....	5.7	4.6	4.6	6.4	5.2	5.6	5.9	7.1	5.9	6.5
1927.....	5.6	2.4	6.8	6.2	4.9	6.0	5.1	5.4	6.4	6.7
1928.....	5.6	6.1	5.2	5.8	5.3	5.8	5.1	5.8	6.8	5.9
1929.....	5.7	7.8	4.2	7.3	5.3	5.4	6.8	6.2	7.3	5.6
1930.....	5.8	2.9	6.7	5.4	5.5	6.2	5.2	5.1	6.5	5.8
1931.....	5.1	6.9	4.7	5.6	4.8	5.4	4.8	4.4	5.0	6.3
1932.....	5.0	6.4	4.6	5.8	5.1	5.1	4.8	4.9	3.8	5.3
1933.....	5.0	4.1	4.7	6.0	5.0	5.4	4.1	4.6	4.5	4.7
1934.....	5.3	5.1	6.2	5.1	5.5	5.6	3.8	4.4	5.0	5.1
1935.....	4.9	4.0	5.3	4.6	5.4	5.0	4.2	4.1	4.3	5.2
1936.....	5.6	5.6	4.3	6.6	6.0	5.7	5.4	4.5	5.8	4.7
1937.....	4.9	5.7	3.0	3.7	5.2	5.2	4.3	4.6	4.8	4.5
1938.....	4.2	2.5	4.2	4.5	5.2	3.8	2.9	2.5	4.3	3.8
1939.....	4.2	7.5	4.1	4.8	4.6	4.3	3.5	3.3	3.6	3.1
1940.....	4.0	2.9	4.2	4.8	4.5	3.7	3.9	3.2	4.0	3.1

TABLE 33 — MATERNAL DEATHS IN THE CITIES OF CANADA OF 40,000 POPULATION AND OVER BY FIVE YEAR AVERAGES, SHOWING THE RATES PER 1,000 LIVE BIRTHS, 1926-40.

Cities	Number of deaths			Rate per 1,000 live births		
	Average 1926-30	Average 1931-35	Average 1936-40	Average 1926-30	Average 1931-35	Average 1936-40
Calgary.....	14	8	9	7.8	4.7	5.2
Edmonton.....	18	13	13	8.5	5.8	4.8
Halifax.....	10	10	7	6.9	6.1	4.0
Hamilton.....	24	17	16	7.9	5.7	5.5
London.....	10	10	7	7.2	7.3	4.4
Montreal.....	126	107	98	6.2	5.6	5.4
Ottawa.....	19	21	15	6.4	7.1	4.7
Quebec.....	26	28	27	5.9	6.8	6.8
Regina.....	(1)	8	5	(1)	6.3	3.8
Saint John.....	9	8	7	7.9	6.7	5.4
Saskatoon.....	(1)	8	6	(1)	8.4	6.5
Toronto.....	95	69	50	7.8	6.0	4.8
Vancouver.....	26	15	14	6.9	4.5	3.5
Verdun.....	4	5	6	3.8	4.9	7.3
Windsor.....	(2)	16	13	(2)	7.9	6.0
Winnipeg.....	26	20	17	5.7	5.1	4.5

(1) Not tabulated — The Census of 1931 showed for the first time a population of 40,000 or over for these cities.

(2) Not available for the present area of Windsor.

TABLE 34—MATERNAL DEATHS IN THE CHILDBEARING FEMALE FIVE YEAR AGE GROUPS, SHOWING PERCENTAGE DISTRIBUTION IN CANADA, 1926-40.

Age Groups	NUMBER OF MATERNAL DEATHS										PERCENTAGE DISTRIBUTION				
	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
Under 20 years.....	58	59	77	79	92	70	66	44	67	47	59	56	45	63	49
20-24 years.....	247	222	251	234	253	193	202	192	211	230	177	134	158	157	157
25-29 years.....	256	277	260	282	315	254	244	257	236	261	272	244	216	215	223
30-34 years.....	283	280	289	274	296	269	267	256	249	231	269	238	217	214	232
35-39 years.....	296	288	288	291	274	250	226	249	235	246	216	223	188	201	201
40 years and over.....	177	174	164	180	175	163	152	136	155	116	157	140	133	129	116
Age not stated.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total.....	1,317	1,300	1,331	1,341	1,405	1,215	1,181	1,111	1,167	1,093	1,233	1,071	968	967	978

TABLE 35—MATERNAL DEATHS AND MORTALITY RATES PER 100,000 LIVE BIRTHS, BY GROUP CAUSES DURING PREGNANCY,
CHILDBIRTH AND THE PUERPERAL STATE IN CANADA, 1926-40.

Int. List No.	Causes of Death	DEATHS FROM PUERPERAL CAUSES										RATES PER 100,000 LIVE BIRTHS				
		1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
146, 147	Albuminuria and eclampsia and other toxæmias	346	344	373	328	334	290	256	251	260	264	307	270	233	232	234
140, 142a, 145	Puerperal sepsis	432	448	439	462	501	443	413	381	421	392	447	385	307	310	277
141	Abortion—non-septic	54	44	34	35	29	49	28	26	40	42	53	26	43	32	39
144	Puerperal haemorrhage	159	183	173	179	179	137	187	175	168	139	154	128	134	160	138
149	Other accidents of childbirth	115	99	99	122	109	87	124	121	139	124	129	112	96	88	81
	All other causes	211	182	213	215	283	209	173	157	139	132	143	150	155	145	209
142b	Ectopic gestation	36	35	41	29	40	30	34	29	33	28	31	25	30	20	25
143	Other accidents of pregnancy	26	23	26	18	20	11	13	8	12	8	6	18	14	14	10
148	Phlegmasia alba dolens	83	81	90	121	143	141	112	114	88	86	95	97	107	101	156
150	Other or unspecified causes	66	43	56	47	50	27	14	6	6	10	11	10	4	10	18
	Total	1,317	1,300	1,331	1,341	1,405	1,215	1,181	1,111	1,167	1,093	1,233	1,071	968	987	978
146, 147	Albuminuria and eclampsia and other toxæmias	149	147	158	139	137	121	109	113	117	119	139	123	102	101	96
140, 142a, 145	Puerperal sepsis	186	191	185	196	206	184	175	171	190	177	203	175	134	135	113
141	Abortion—non-septic	23	19	14	15	12	20	12	12	18	19	24	12	19	14	16
144	Puerperal haemorrhage	68	78	73	76	74	57	79	79	76	63	70	58	58	70	56
149	Other accidents of childbirth	49	42	52	45	36	53	54	63	56	59	51	42	38	33	
	All other causes	91	78	90	91	104	87	73	70	63	60	65	68	68	63	86
142b	Ectopic gestation	15	15	17	12	16	12	14	13	15	13	14	11	13	9	10
143	Other accidents of pregnancy	11	10	11	8	5	6	4	5	4	3	8	6	6	4	4
148	Phlegmasia alba dolens	36	35	38	51	59	48	51	40	39	43	44	47	44	64	7
150	Other or unspecified causes	28	18	24	20	21	11	6	3	3	5	5	2	4	4	
	Total	566	555	562	570	577	505	501	499	527	494	560	486	422	421	400

CHAPTER VIII

Deaths

Death registration might be termed the cornerstone of the modern world system of Vital Statistics.

In 1662 Captain John Graunt, F.R.S., compiled the first known Vital Statistics of London (England) when he claimed to have reduced the large volumes of death statistics of London into a few perspicuous tables. Captain Graunt based his calculations upon his observations of the "London Bills of Mortality", which had been established for the city of London as early as 1592. The Bills of Mortality were weekly budgets of births and deaths which were prepared for the city of London. These Bills were later brought into prominence by William Farr, the father of our present Vital Statistics Laws. It was mainly through the efforts of Farr and his contemporaries that the Bills of Mortality assumed great importance as statistical records of mortality in the Metropolis and that they were later replaced by the present form of death registration under the Registration Act of England and Wales.

Death registration thus introduced was primarily of statistical import, but during the succeeding years the registration system of deaths has developed aspects of legal, economic, and social significance. Death registration assists in the prevention and detection of crime. It establishes the basis of genealogical study. Death certificates are invaluable in establishing proof of death in the probate courts for the settlement of estates and to insurance companies when judging life insurance claims.

Insofar as completeness of registration is concerned, death registration has very few defects. Failure to register is at a minimum, chiefly because the registration laws in most countries of modern registration concepts strictly require that a burial permit must be obtained by the undertaker prior to the disposition of the body of a deceased person. The undertaker is therefore responsible for the registration of a death and he must obtain from the physician last in attendance at the death, or the coroner who holds an inquest or inquiry into circumstances surrounding a death, a Medical Certificate duly attested. For this reason, death registration is more complete than birth registration. In the case of deaths from other than natural causes, the inquest or inquiry by the coroner provides the means of detecting deaths under criminal circumstances.

The facts of death of an individual are provided from two distinct sources: (a) personal particulars, by the immediate family and (b) the nature of dying

(Medical Certificate), by the last attending physician or the coroner.

Statistically, death registration data have been used by health authorities as one of the most useful weapons in the study of disease and its cause, and have thereby been the means of bringing about an improvement in the general health of the people and of lengthening the span of human life.

The general death rates of communities and nations have, from time to time, been violently disturbed by periodic outbreaks of epidemic diseases. Many communicable diseases have their favorite haunts, wherein they become epidemic, while in other localities these particular diseases may never appear. An infectious disease is said to have become pandemic when it becomes world wide in extent.

Plague is an infectious disease which, during the history of the world, has caused a high mortality. Originally the term "plague" was used to define any disease of epidemic nature which caused a high mortality. Today, however, the term "plague" is applied to a disease cause by a specific parasite or bacteria.

Primarily a disease of the rats and other rodents, such as the ground squirrel, marmot, etc., the modern plague is transmitted to the human through the medium of rat fleas. History records many plague epidemics of varying severity during the ages, among the most devastating during the past six or seven centuries being that great cycle of plague deaths in the 14th century, commonly known as the "Black Death", which is said to have wiped out one-quarter of the population of Europe, roughly 25,000,000 persons, and the "Great Plague of London" in 1664-65 which according to the "Bills of Mortality" claimed a total of 68,596 victims in a population estimated at 460,000, an astounding mortality rate of 149.1 per thousand of population.

The date and origin of smallpox is unknown, but history records a severe epidemic in Iceland during the 13th century, while its first recorded appearance in Europe was during the 15th century. Smallpox epidemics became progressively more common in the 16th and 17th centuries, attaining the maximum of frequency and extent during the 18th century. The "Bills of Mortality" revealed that over a period of 10 years (1681 to 1691) smallpox deaths in the city of London exceeded an average of a thousand deaths a year. The United States and Canada, in the latter part of the 19th and early years of the 20th centuries, experienced severe outbreaks of smallpox, yet today

vaccination has reduced this great scourge in most European and North American countries to an almost negligible quantity.

In modern times, cholera, dysentery, typhus and bubonic plague, are most prevalent in hot countries. These infections are said to be Asiatic in origin. Isolated epidemics of diphtheria, typhoid fever and similar infections are of fairly common occurrence even today, but none of these diseases has, during recent years, reached pandemic proportions.

The Negro is said to have been responsible for the introduction of malarial fever to the southern United States. The Negro is said to have carried the virus in his blood and thus transmitted the disease to the white population who, not being immune to the disease, immediately fell victims. Science has now conclusively established that the transmitting agent in the spread of malaria is a specific type of mosquito.

Measles, whooping cough, and other so-called minor infections are known to have ravaged certain areas of the globe with a fierceness and a mortality rate unknown to modern times.

The advance in the study and application of bacteriology has been a factor in reducing the death rates from many of the infectious diseases to an almost negligible quantity.

An infectious disease which during the last 40 years has reached pandemic proportions is influenza in its various types. The 1890 epidemic travelled around the world within three to four years, and from 1917 to 1919 it again circled the globe. Influenza first became apparent in epidemic proportions in Canada early in October of 1918 and reached its peak in December and January, subsiding gradually towards the end of March and the beginning of April, 1919.

The following figures, taken from Provincial Annual Reports of Vital Statistics, reflect the 1918 epidemic of influenzal-pneumonia in Canada.

CRUDE DEATH RATES PER 1,000 POPULATION, 1917-20.

	1917	1918	1919	1920
Prince Edward Island.....	10.4	11.7	8.3	14.4
Nova Scotia.....	14.9 ⁽¹⁾	17.9 ⁽¹⁾	17.9 ⁽¹⁾	14.5
Quebec.....	15.8	20.6	14.5	16.4
Ontario.....	12.0	15.3	11.9	13.9
Manitoba.....	9.8	13.7	13.0	12.2
Saskatchewan.....	7.0	12.7	7.5	7.4
Alberta.....	8.1	13.9	9.3	10.0
British Columbia.....	11.1	13.9	11.3	10.7

⁽¹⁾ Year ending September 30th.

NOTE: — Figures not available for the Province of New Brunswick.

Ontario, the most populous of the provinces, in 1918 recorded a death rate per thousand population of 15.3 as against 12.0 in 1917; 11.9 in 1919; and 13.9 in 1920; while Quebec the second geographical

unit of Canada in size of population recorded crude death rates of 15.8 in 1917; 20.6 in 1918; 14.5 in 1919; and 16.4 in 1920.

During recent years there has been a distinct improvement in the reporting of cases of communicable diseases. Previously, death statistics had, of necessity, to be used extensively as the most effective means of measuring sickness tends, particularly in the case of non-reportable (non-infectious) diseases. The statistician must, however, always bear in mind the admonition of Sir Arthur Newsholme¹ that

"The registration of deaths gives a very imperfect view of the prevalence of disease."

Nevertheless, death records have been of extreme value in the study and suppression of epidemics and other preventable diseases. (See also Chapter X—Communicable Diseases.)

War has a distinctly disturbing influence on Vital Statistics. Marriage rates and birth rates fluctuate as the various stages in conflict are reached while the normal civilian death rate is subsequently affected by the reduction in the population of men in the military age brackets (19 to 45). A thousand and one questions have arisen regarding the war disturbance in vital statistics and many of these questions still lack a satisfactory solution. Generally speaking, however, when dealing with death rates in countries of European civilization, it has been fairly standard practice to disregard the effects and after-maths of war in measuring the effects of death upon the civilian population. Keeping this fact in mind, the past century has seen a marked decline in the crude death rate for all countries. Perhaps the most impressive decline is furnished by the mortality statistics of Sweden, where vital statistics have been kept with a high degree of accuracy since 1750. Sweden's crude death rate declined from an average rate of 27.4 per thousand in the decade 1751 to 1760; 21.7 in the decade 1851 to 1860; 16.4 in the decade 1891 to 1900; to 12.1 from 1921 to 1930.

A decline in the crude death rate per 1,000 population for England and Wales and Scotland is reflected by the following figures:

Years	Crude death rates per 1,000 population	
	England and Wales	Scotland
1870-2.....	22.3	22.3
1880-2.....	19.7	19.7
1890-2.....	19.7	19.7
1900-2.....	17.2	17.9
1910-2.....	13.8	15.1
1920-2.....	12.4	14.2
1930-2.....	11.9	13.4

¹ Newsholme, Sir Arthur — Vital Statistics.

In the United States the average crude death rate in the first decade of the present century was 15.5; in the second the rate declined to 14.0; in the third to 11.7 and in the fourth to 11.0.

INTERNATIONAL COMPARISONS. — Table 36 lists the death rates of forty-three countries for the years 1935, 1936 and 1937. The table reveals that in all three years three countries recorded crude death rates under 10.0 per thousand population, namely, the Netherlands (8.7, 8.7 and 8.8); New Zealand (8.2, 8.8 and 9.1); and Australia (9.5, 9.4 and 9.4). Canada in both 1935 and 1936 recorded a crude death rate of 9.7. As compared with the other countries, Canada holds a relatively good position in low-ranking death rates, namely, fourth in 1935, fifth in 1936, and fifth in 1937. The Union of South Africa (whites) in 1936 and 1937 held fourth place with rates of 9.6 and 10.1 per thousand population, respectively. It will be seen, therefore, that some of the lowest crude death rates recorded among the nations of the world are those of Canada and other members of the British Commonwealth of Nations.

GENERAL MORTALITY. — Total deaths and crude death rates for Canada, by provinces, are shown in Table 37. It will be seen in Chart 6 that, while the death rate experience for Canada is recorded over a relatively short period of time, from 1926 to 1940, the trend is reflected as generally downward. In 1926 the death rate stood at 11.4 but by 1940 it had declined to 9.8. During this period five years recorded lower rates than that of 1940; particularly 1934 and 1938, with rates of 9.4 and 9.5, respectively. A peak appeared in the line trend in 1929 when the rate stood at 11.3.

The provincial crude death rates show a wide variation from East to West with the Western Provinces recording consistently lower rates. Saskatchewan held the low spot during the whole 15 year period. In 1926 the rate was 7.4 and except for the years 1929 and 1937 when the rates were 7.6 and 7.4, respectively, there was a steady decline until 1939 when the rate stood at 6.4. In 1940 the rate rose again to 7.0.

A decided improvement is indicated in the deaths and death rates for Quebec. In 1926 the rate stood at 14.3 and by 1940 had steadily declined to 10.1; a reduction of some 29 per cent in the crude death rate. The crude death rates for the other seven provinces generally reflect a parallel course to the Canadian trend, but in the year 1939 the death rates showed a tendency to increase for each province, except Saskatchewan, Alberta and British Columbia. In 1940 Quebec and the Maritimes recorded decreases

in the death rates, but for Ontario and the four Western Provinces the rates generally increased.

SEX DISTRIBUTION OF DECEDENTS. — The figures in Tables 38 and 39 (taken together) show the sex distribution of decedents each year in the various age groups in Canada. It will be seen that for every year of the review period males suffered a much higher proportion of deaths than did females, and particularly in the younger age brackets. The sex ratio of males to every 1,000 females for each year was as follows:

RATIO OF MALE DEATHS TO 1,000 FEMALE DEATHS IN CANADA,
1926-40.

Year	Ratio of males to 1,000 females	Year	Ratio of males to 1,000 females	Year	Ratio of males to 1,000 females
1926	1,129	1931	1,178	1936	1,170
1927	1,148	1932	1,164	1937	1,201
1928	1,156	1933	1,158	1938	1,225
1929	1,158	1934	1,191	1939	1,221
1930	1,178	1935	1,183	1940	1,240

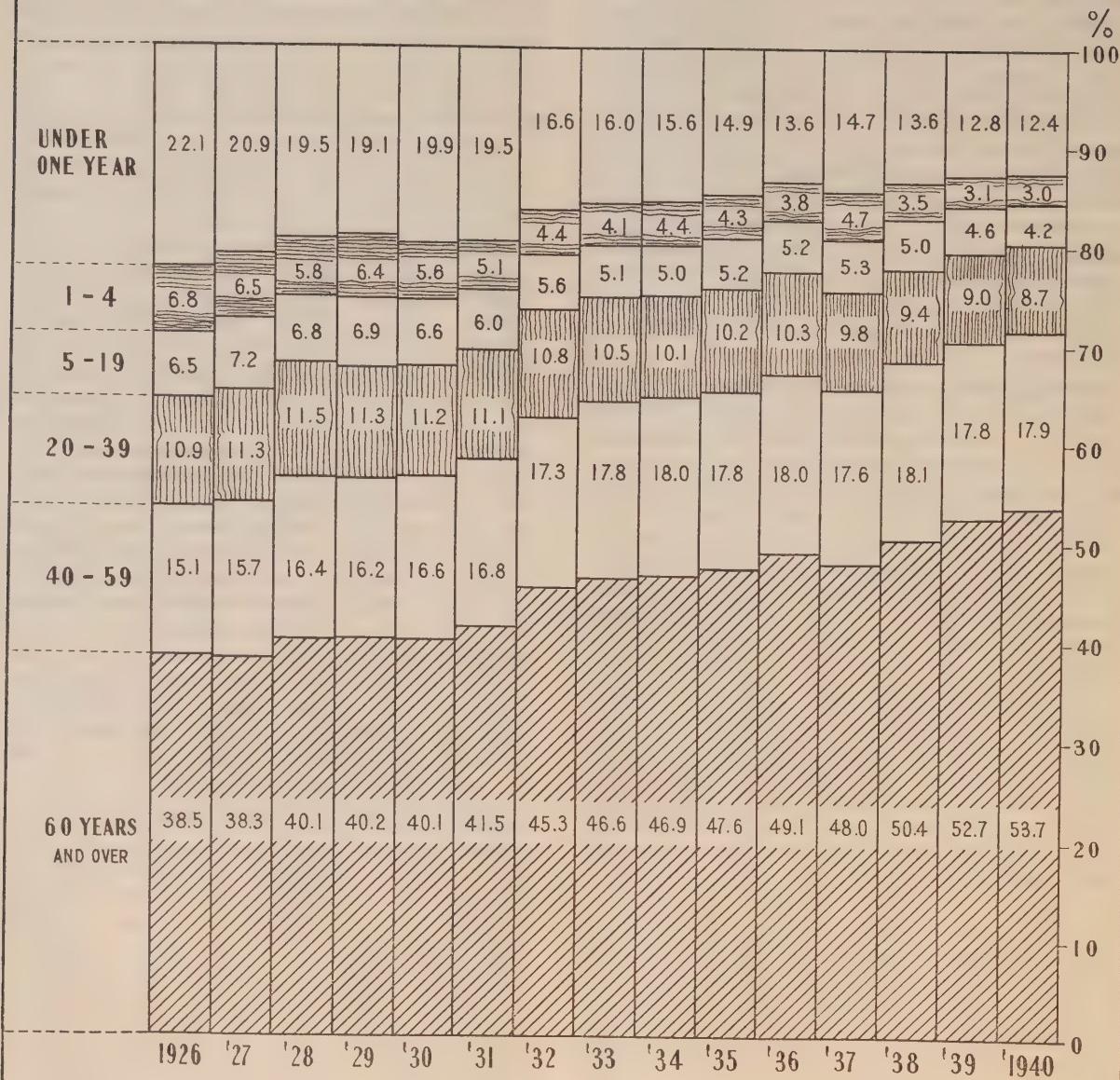
The above figures reveal that, generally speaking, the male ratio is on the increase as in 1926 it was 1,129 to every 1,000 female deaths and by 1931 it had reached a ratio of 1,178. For the next two years there was a slight decline but increased to 1,191 in 1934. During 1935 and 1936 the ratio dropped again but 1937 and 1938 showed increases to 1,201 and 1,225, respectively. In 1939 there was a very slight drop but in 1940 the ratio reached 1,240 males for every 1,000 females, so that in spite of these fluctuations during the period the percentage increase in the ratios was 9.8.

Table 40 shows that in the matter of broad age groups the male points of age in the quartiles are consistently lower each year than the female. This indicates that the mortality rate in Canada for men is much higher than it is for women.

AGE DISTRIBUTION OF DECEDENTS. — A study of deaths by age groups in a number of countries has revealed that the reduction in death rates, for the most part, has been in the younger age groups and that the rates for ages over sixty years have not diminished but have actually increased quite rapidly. This is true in the United States and particularly so in Canada. The Vital Statistics show by the increased death rates among the older population that after fifty years of age people succumb to conditions which are more closely related to the vicissitudes of later life. This would seem to be a most satisfactory state of affairs and would appear to indicate a nation of healthy virile citizens living to a ripe old age; but

Chart 17

DEATHS
PERCENTAGE DISTRIBUTION
BY
BROAD AGE GROUPS
CANADA, 1926 - 1940



it must be remembered that the human element in the country needs replenishing. In order to accomplish this the death toll among the children of Canada which is far too heavy, must be reduced to a minimum.

Tables 38 and 39 show the absolute distribution of deaths (Table 38 for males and Table 39 for females) by age-groups in Canada from 1926 to 1940. The numbers show, in general, a pronounced shifting in the age incidence of deaths from the younger to the older age groups and reflect, particularly, the striking reductions in deaths for single years of age under 5. The figures in Tables 38 and 39 when considered with Chart 17, which shows the percentage distribution of deaths in Canada by broad age-groups, reveal some very striking facts: (1) that the proportion of deaths under one year to the total mortality has decreased year by year—this is partly due to the declining birth rate; (2) that the proportion of deaths between the first and fifth birthday have shown an even more pronounced downward trend—this is also partly due to the declining birth rate, particularly in the younger ages; (3) that the upward trend in ages over 60 years has become more pronounced each year—this reflects and is due in large measure to the ageing of the population.

The declining birth rate, however, cannot be wholly responsible for the reduction in deaths and death rates of children which occur before the fifth birthday. Many surveys and studies have proven fairly conclusively that much has been accomplished in this direction through the united efforts of medical practice and public health—as instanced by the rapid advances which have taken place in laboratory techniques and the reduction of deaths from infectious diseases. It must be remembered that deaths from diphtheria, smallpox, whooping cough and typhoid fever have been all but eliminated as major factors in mortality since the turn of the century.

The following figures reveal that even with mortality under 5 years of age omitted from the picture, the shifting to the older ages is evident over the greater part of the period. The percentages shown are those which deaths over 40 years of age formed of deaths from 5 to 39 years.

PERCENTAGE OF DEATHS 40 YEARS OF AGE AND OVER FORMED OF DEATHS AT AGES 5 TO 39 YEARS OF AGE, CANADA, 1926-40.

Year	Percentage	Year	Percentage	Year	Percentage
1926	307.9	1931	341.2	1936	434.6
1927	291.0	1932	380.9	1937	436.9
1928	309.7	1933	413.3	1938	473.9
1929	310.4	1934	430.4	1939	518.6
1930	318.6	1935	424.5	1940	554.2

It will be noted that the upward trend in the proportion was halted in 1927 when the figure dropped from 307.9 in the previous year to 291.0, and, except for a slight drop in 1935, the percentage has steadily increased in favour of the older group. The two variations in the upward trend may have been the result of (a) a change in the age composition of the population, and/or (b) a disturbance in the normal trend of the proportion between the death rates for the two groups.

Another fact worthy of note in Tables 38 and 39 is the steady increase in the ratio for 75 years—which would seem to indicate that with all the vicissitudes of a rugged life, running the gamut of disease and death, Canadians are increasingly living to “a ripe old age”, and that this fact is just as true of the Canadian woman as it is of her mate.

Table 40 shows the male and female decedents for each year from 1926 to 1940 arranged according to age divided into age quartiles. The figures reveal (1) that in the first quartile the point of separation for females prior to 1940 is consistently much higher than it is for males, and reflect the higher death rates among males in the first year of life; (2) that in the second quartile the point of separation for females is only slightly higher than for males each year, indicating that at this age period deaths in point of age for both sexes are almost equal; and (3) that in the third quartile the separation point for females again rises above that of males each year, indicating that females generally have a higher life expectancy as they become older than do males. The fact that in 1940 the two age points in the first quartile are almost level for both sexes is no doubt due in some measure to the absence of a large portion of the male population on active service, as well as an improvement in the death rate for younger male Canadians. The truly remarkable fact revealed by this table is the tremendous shift upward of the separation points for the first quartile for both sexes over the review period, as in 1926 one-quarter of the decedents was under 1.83 years (1.34 for males and 2.85 for females); in 1931 one-quarter was under 5.73 years (3.82 for males and 8.65 for females); in 1936 one-quarter was under 24.54 years (23.75 for males and 25.32 for females) and in 1940 one-quarter of the decedents was under 32.84 years (32.87 for males and 32.80 for females). The point of separation for the second quartile (one-half of the deaths) has likewise advanced each year from 45.50 years (45.16 for males and 45.89 for females) in 1926 to 62.57 years (61.74 for males and 63.75 for females) in 1940. The point of separation for the third quartile (three-quarters of the deaths) has fluctuated to some extent during the review period, but nevertheless has advanced

steadily from 70.70 years (70.05 for males and 71.51 for females) in 1926 to 75.73 years (74.59 for males and 76.98 for females) in 1940. This very definite steady increase in the average ages of the decedents in Canada when taken in conjunction with the falling birth rate is evidence of the ageing of the population and the lengthening of life expectancy. The Vital Statistics of Canada² and the Canada Year Book³ give tables which show the distribution of the decedents by deciles. The deciles divide the decedents into ten equal groups, giving a more detailed picture of the age distribution and stressing even more forcibly the facts concerning the ages of decedents revealed by the above figures.

The crude death rate in all countries is highest at the two extremes of life's span—among the very young children and the aged persons within the population. But in the public health sense and as such phenomena affect the population growth of a nation, the very high death rate under 5 years of age is of relatively more importance and significance than the increasing death rate for 65 years of age and over. The former group represents the most fertile field in which death prevention measures can be applied with a degree of success—for it is within this particular group of deaths that the greater portion due to preventable diseases are to be found, and wherein preventive measures can be expected to have a telling effect upon plans to bring about a nation of healthy and robust young citizens. When a man reaches the age of 65 years he enters that period of existence when his usefulness within the State begins to decline and he looks forward to the years of retirement.

The greater proportion of deaths due to wearing-out or degenerative diseases and such diseases as cancer, will be found to emanate from the population over 65 years of age, for it has been shown by studies of age incidence in relation to causes of death that the enormous increase in cancer deaths is greatest in the upper age brackets. An ever increasing number of deaths due to diseases of the heart and arteries, myocarditis and other such diseases which are attendant upon the wearing-out of a well preserved and long-lived human being is also found among decedents over 65 years.

DEATHS BY OCCUPATIONS. — During recent years the study of the relationship between occupation and disease has received a good deal of attention, particularly along the lines of industrial hazards and for particular diseases. In some of the Annual reports on Vital Statistics for Canada deaths of males from certain causes have been classified by the age and occupation of the decedent, but the conclusions which can be drawn are very narrow, being

confined mainly to the proportionate distribution of causes when the required adjustments have been made for age at death. When more significant analyses are attempted by bringing the figures obtained from death transcripts into relationship with data from the Census for the purpose of computing mortality rates by occupation, a number of difficulties arise which tend to obscure the conclusions which can be drawn. In the first place, with the exception of industrial accidents, and to a lesser extent, of industrial diseases, the difference between occupational groups in mortality from a given cause cannot always definitely be considered as resulting from the occupation followed or the social or economic conditions which it connotes, since in many cases the choice of occupation has been to some extent determined by certain tendencies which have already been evidenced in the individual before the choice was made, or by the general ruggedness or delicacy of the individual constitution. Again, the death transcript requires only one occupation, properly the last occupation, for each decedent, and it is quite possible that in a number of cases where mortality has been affected by the occupational conditions, these conditions pertained to an occupation prior to the last one followed. Some information on this subject is obtainable from the death registration which is collected by the provinces of Canada, as it calls for the date the deceased last worked at the occupation given and the total years spent in this occupation, although these questions are frequently left unanswered, and it is not considered feasible at the present to insist that the additional information be given. A great deal of thought, however, has been given to the problem of securing useful "occupational mortality statistics" and a decided improvement is evidenced in the material now being received in the Dominion Bureau of Statistics and the occupational and industrial codes for Vital Statistics used in 1942 have been brought into closer uniformity with the 1941 Census classifications.

Table 41 which has been drawn up from information contained in the death transcripts for 1940, shows the number of deaths of males between the ages of 20 and 64 in certain occupations, classified according to age groups. It will be seen that by far the greatest number of male deaths in Canada was to be found among farmers, and that nearly 50 per cent of these deaths were in the age group 55 to 64; that the second largest number of deaths was among common labourers in all industries other than agriculture, and that of these about 38 per cent were in the age group 55 to 64; third in point of numbers were the deaths

² Vital Statistics of Canada, 1925 to 1928.

³ Canada Year Book, 1931 to 1942.

among owners and managers in all walks of life and here again the large proportion of over 53 per cent was to be found in the upper age group; in fourth place are to be found the office workers and public officials, with roughly 43 per cent of the deaths in the upper age group; the professional workers came fifth, doctors, lawyers, clergymen, professors, engineers, and so forth, with some 49 per cent to be found in the age group 55 to 64; while in sixth place were to be found the general workers in personal service, including cooks, with only 44 per cent in the age group 55 to 64 years.

Of the 21,876 male deaths shown in the table, the proportional distribution for the five age groups given was:

Age Group	Deaths	Per cent of total
20-24 years	1,185	5.4
25-34 years	2,349	10.7
35-44 years	3,101	14.2
45-54 years	5,635	25.8
55-64 years	9,606	43.9

MORTALITY FOR THE PRINCIPAL CITIES AND TOWNS.—Table 42 shows the number of deaths in the principal cities and towns of Canada, over 1,000 population, by five-year averages, from 1926 to 1940. The figures shown are for deaths within the municipal unit of "occurrence". Special studies on births and deaths by "place of residence" were published for the years, 1931-32, 1935 and 1936. Owing to the unreliability of the statement of residence on the transcripts for small towns and the tendency of rural residents to give the post office address instead of the actual residence, "urban residence" in studies was restricted to cities and towns of 5,000 population and over. Rural and urban classification of deaths is a problem which presents many complicating factors which have yet to be solved satisfactorily for vital statistics cross classifications.

CAUSES OF DEATH.—The death rate for any disease should be stated in relation to the population subject to the risk of death. Crude death rates are affected to some extent by the sex and to a very great extent by the age distribution. To eliminate the influences of these factors "adjusted" or "standardized" death rates have been obtained for the whole of Canada and for each province. These rates purport to show what the mortality would be if Canada and each of its provinces had a population composed as to age and sex like that of England and

Wales of 1901. As already stated only crude rates have been used in this section on Vital Statistics—this is mainly due to the fact that in the absence of definite figures as to the composition of the age grouping of the population for inter-censal years no high degree of accuracy could be claimed for the adjusted rates for years other than Census years when the age and sex distribution of the population are definitely known. For some purposes adjustment (or standardization) of death rates is not only desirable but essential, particularly for comparative purposes. In the present instance the main objective is to measure the death loss within the nation at large and not to present a statistical study of mortality in comparison with other countries, therefore, crude rates were thought to be satisfactory. The Vital Statistics of Canada⁴ contain standardized tables which reveal some of the inequalities due to variance in the composition of the population as between the provinces.

The science of classification of disease is called "nosology". Dr. William Farr⁵ was one of the first medical statisticians to recognize the importance of a systematic description and classification of diseases and in 1850 used one of the first lists for the classification of diseases, a copy of which is given in detail in the 16th Annual Report of the Registrar-General of England and Wales.

Mainly through the efforts of Dr. Jacques Berillon of France, the first International List of Diseases and Causes of Death was used in 1893. This list was revised and amended during the years following and provision was made for decennial revisions by an International Commission. Accordingly revisions were made in Paris in 1900, 1909, 1920,⁶ 1928 and 1938. England and Wales first adopted the International List in 1911 for the classification of deaths by cause and about the same time it was adopted by the provinces of Canada which collected and analysed death registrations. The decennial revisions are necessary because of the changes in the definitions of diseases which are inevitable as medical science advances, and such changes must be universally recognized in order to maintain comparability of Mortality Statistics.

The International List of Causes of Death is divided into classes, which have varied in number from fourteen (Revision of 1909) to eighteen at present (Revision of 1938); the list is divided into some 200 single or group causes of death, known as rubrics and each rubric is numbered for the convenience

⁴ Vital Statistics of Canada, 1921-40.

⁵ See Annual Reports of the Registrar General, England and Wales, prior to 1910.

⁶ No revision of the list was made in 1919 owing to the war, but a convention representing national governments met in Paris, Oct. 11th to 14th, 1920; this was known as the Third Revision.

reference and mechanical tabulation. The revisions tend to disturb the sequence of the rubrics and require shifts of certain diseases from one class to another; this makes comparison over a long period of time extremely difficult and one must be on guard when making comparisons to ensure that the figures used in studying the effects of diseases are strictly comparable. The figures regarding causes of death in Tables 43 and 44 have been adjusted in order to correct as closely as possible demographic errors, as between the requirements of the Revisions of 1920 (used in Canada from 1926 to 1930) and 1929 (used in Canada from 1931 to 1940).

From 1926 to 1940 over 87.12 per cent of all registered deaths from specified causes in the nine provinces of Canada were due to the thirty-one main causes of death listed in Table 43, which gives the numerical distribution of decedents by cause of death and by years and Table 44 gives the crude death rates per 100,000 population by causes and by years. In general the figures reveal that some very striking decreases have taken place among the causes of death, particularly among the communicable diseases due to bacteria and parasites. The reduction in this class of diseases is coincident with the advances in bacteriology and laboratory techniques, which have likewise had a telling effect upon the death rates for pneumonia, diarrhoea and enteritis, and diseases of early infancy and maternity. The diseases which are directly associated with advancing age have shown some equally striking increases in both numbers and rates.

As already pointed out, in any analysis of the relative importance of causes of death it must be remembered that the Canadian population is an ageing one—that is, the average age is being advanced year by year owing to the long term influences of a falling birth rate, falling specific death rates for certain diseases and the almost complete absence of immigration. The population is gradually moving up the age scale and this movement has been accelerated by improvements in sanitation and health conditions in Canada generally, so that the average age at which death occurs has been pushed gradually higher. All these factors tend to thrust those causes which are commonly associated with advancing years to the fore.

THE TEN LEADING CAUSES OF DEATH. — Table 45 presents a resumé of the ten leading causes of death in Canada from 1926 to 1940, placed in order of rank in 1940 and indicating—

- (a) the rating for each year;
- (b) the total number of deaths for each cause;

- (c) the ratio of each cause to the total deaths; and
- (d) the crude death rate per 100,000 of population for each cause.

The leading causes of death for the fifteen years (1926 to 1940) has been "Diseases of the Heart". In 1926 "Diseases Peculiar to the First Year of Life" ranked second; in 1930 this group dropped to third place and to fourth place in 1934. Since then the group has ranked sixth and seventh on three occasions; "Pneumonia" (all forms) ranked third in 1926; from 1927 to 1939 it varied from fourth to sixth place, dropping to seventh in 1940; "Tuberculosis" (all forms) varied in rank between fourth and fifth place, from 1926 to 1933, while in 1934 and 1935 it dropped to seventh, rising to sixth for the next two years and dropping again to eighth place from 1938 to 1940; "Cancer" (all forms) was fifth in rank in 1926, rising to third place for the next three years and from 1930 to 1940 retained second place; "Violent or Accidental Deaths" ranked sixth from 1926 to 1929, rising to fifth place for the years 1930 and 1931. For the next two years the group stood at seventh place and from 1935 to 1940 varied in rank between fourth and fifth place; "Nephritis" ranked seventh in 1926, and except for one year (ninth in 1929) held eighth place from 1927 to 1937; for the next three years this disease rose to seventh, sixth and fifth places, respectively; "Diseases of the Arteries" ranked between eighth and seventh from 1926 to 1931, rose to sixth in 1932, to fourth in 1933, and was in third place from 1934 to 1940; "Influenza" (all forms), except in 1929 when it ranked seventh, has, generally speaking, retained ninth position although for four out of the fifteen years it ranked tenth; "Intracranial Lesions of Vascular Origin" (cerebral haemorrhage) ranked tenth for eleven years out of the fifteen and for the remaining four years stood in ninth place.

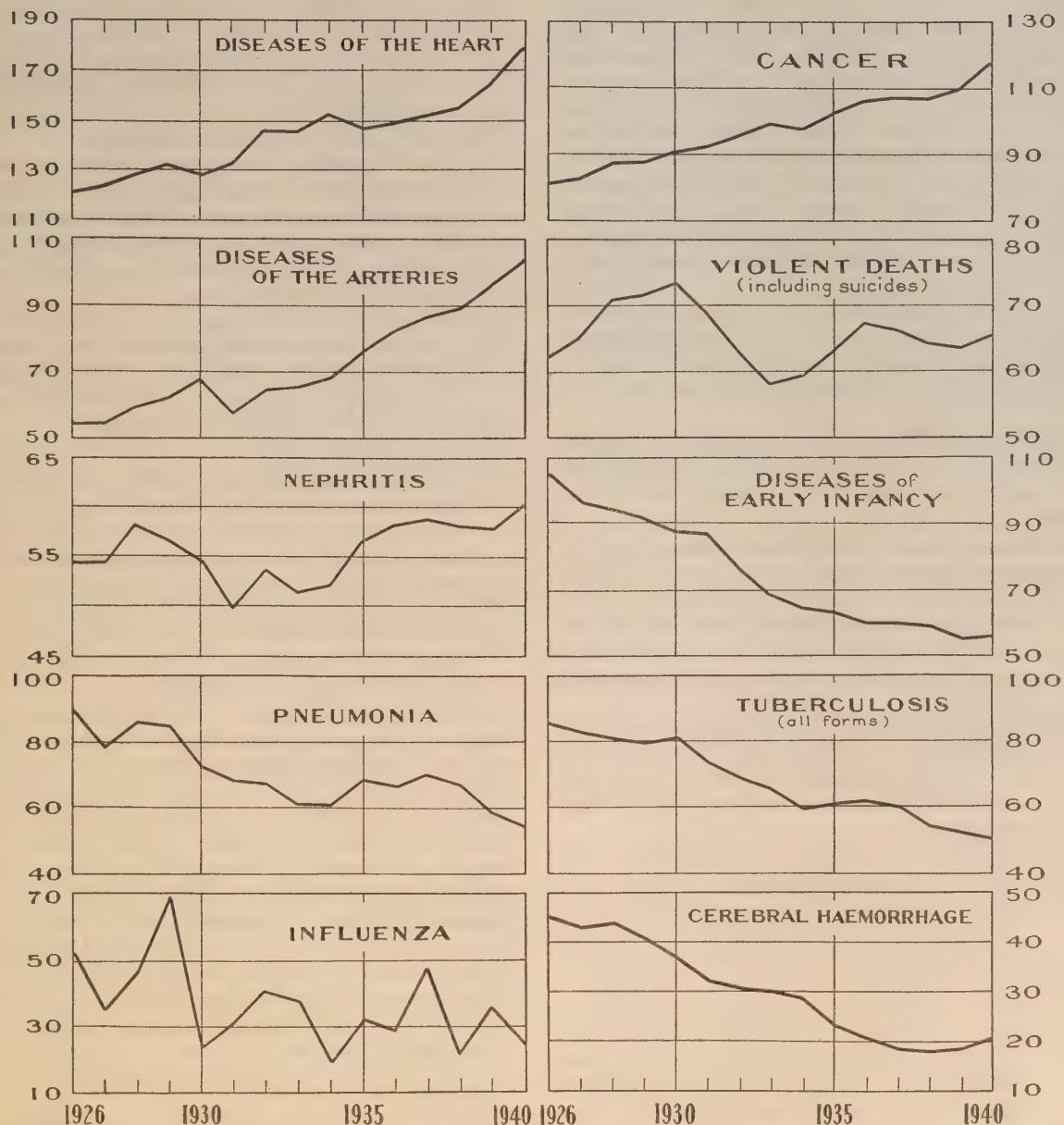
Public health must approach mortality statistics with two aims in view—(1) the causes of the disease and its eradication and (2) the means for establishing measures of prevention and control. With this in mind the causes of death in Tables 43 and 44 are analysed in the following pages individually, in order to focus the statistical spotlight upon some of the more salient facts surrounding the main causes of death in Canada.

DISEASES OF THE HEART. — Heart Disease in 1940 in Canada ranked first among the ten leading causes of death. In nearly every country heart disease is far in the lead among the causes of death and in a broad sense it includes a number of highly diverse diseases with their varying conditions, i.e., pericarditis, acute endocarditis, chronic affections of

**TEN LEADING CAUSES OF DEATH
IN
CANADA**

1926 - 1940

Rates per 100,000 population



the valves and endocardium, diseases of the myocardium, diseases of the coronary arteries, angina pectoris, functional and other diseases of the heart. Death from heart disease is said to be twice as common among men as among women. Heart disease is primarily a disease of men over forty-five years of age.

Emerson estimated that between 2,330,397 and 3,665,062 persons, or from 1.9 to 2.9 per cent of the population, were suffering from some form of heart ailment in the United States in 1931. While special surveys of selected groups of the population—such as industrial workers and applicants for insurance policies—have revealed that heart disease has a morbidity rate of around two per cent of the total population examined, school surveys have shown roughly one per cent of the children examined through medical services are afflicted with heart disease. Heart disease is more prevalent among certain groups of the population, owing to the high frequency of hypertension and syphilis, and besides its high death toll, is a leading disabling disease. Some individuals appear to be under the false impression that all lesions of the heart are fatal. With good medical guidance and physical care many "heart sufferers" live far beyond their allotted "three score years and ten".

Most heart conditions are due to underlying causes and may be the results of heredity, obesity, occupation, worry, fatigue and other diseases such as diabetes.

The main types of heart disease which most readily respond to the application of preventive measures are;

- (a) the thyroid group—wherein results of treatment are often dramatic; disability may be prevented, life prolonged, and in a number of cases the patient restored to his economic status;
- (b) the syphilis group (aortic aneurysm and insufficiency)—"life shortening" caused by this form of heart ailment may be prevented by prompt and intensive treatment of the infected person;
- (c) the rheumatic group (resulting in mitral stenosis and diseases of the valves)—strict medical care of the victims of rheumatic fever and chorea will prevent much of the early wastage from heart trouble in later life;
- (d) focal infections (peri,-myo,-endo-carditis) — the prevention and correction of focal infections, which not only attack the heart and vascular system but endanger many organs of the body, can do much to reduce the number of deaths in this group during the earlier ages;

- (e) in the maternal group—many women with cardiac conditions can be guided safely through pregnancy by modern medical care, although in some cases therapeutic abortion is the only safeguard. Such decisions lie solely within the jurisdiction of a first-class obstetrician; and
- (f) the athletic heart—some authorities question the fallacy that athletics cause heart disease but presuppose that the great danger lies in over-burdening a previously damaged rheumatic or congenital heart. The danger may be prevented by periodic physical examinations, either during or before engaging in strenuous competitive sports.

The other two types of heart disease are:

- (a) the congenital hearts—very little has been accomplished by treatment, and the prevention of congenital heart disease is unknown. The main platform is one of adjustment to the disability and the prevention of infectious conditions; while
- (b) the degenerative group—it is doubtful whether the degenerative changes that appear during later life can be prevented, although good medical care and treatment are known to have prevented early disabilities.

To sum up the situation?

"We know that life can be prolonged and made more efficient for some of those persons having these conditions, with less of suffering and distress, if the diagnosis is made early in the course of the disease and if the patient understands his limitations and is under suitable medical supervision. As in cancer, the key-stone of any programme for the control of heart disease is the practicing physician."

The crude death rate per 100,000 population, for diseases of the heart, has shown an increase of 47.5 per cent from 1926 when the rate was 120.9 to 1940 when it reached 178.3. The rate increased steadily until 1934 when it was 151.3; dropping to 147.1 in 1935, but has since resumed its steady rise. (See diagram in Chart 18). The figures in Tables 43 and 44 reveal that coincident with the increased rate for diseases of the heart there was a very marked decline in the rates from senility and a slight improvement in the rates for ill-defined causes—this indicates an improvement in certification which cannot have failed to produce a pronounced effect on the rates from specified degenerative diseases, in addition to the effects of the shifts in the age composition of the population.

⁷ Smillie, Wilson G. — Public Health Administration in the United States, page 333.

During the review period deaths from diseases of the heart totalled 228,537 or a yearly average of 15,236. The following figures give some idea as to the distribution of these deaths by each specific cause in the group:

Cause of death	Percentage of total deaths from heart disease		
	1931	1936	1940
Pericarditis.....	.6	.2	.2
Endocarditis, acute.....	1.6	1.5	1.3
Endocarditis, chronic, valvular disease.....	24.8	18.9	14.0
Myocardium diseases.....	35.5	30.7	29.4
Coronary arteries and angina pectoris.....	20.8	36.3	45.5
Functional and other.....	16.7	12.4	9.7

The above figures indicate that the bulk of the increase is found in coronary artery and angina pectoris deaths, for which the proportionate distribution increased from 20.8 per cent in 1931 to 45.5 per cent in 1940, while the proportions for the other specific causes in the group show decreases, particularly for chronic endocarditis and valvular disease which dropped from 24.8 to 14.0 during the ten year period.

The total number of deaths of decedent males over 45 years of age together with the annual percentage distribution to the total deaths from heart disease for both sexes for each year from 1926 to 1940 was as follows:

Year	Number of male deaths over 45 years of age	Per cent of total deaths from heart disease	Year	Number of male deaths over 45 years of age	Per cent of total deaths from heart disease
1926	5,147	45.1	1934	8,387	51.3
1927	5,486	46.6	1935	8,244	51.3
1928	5,867	46.5	1936	8,645	52.6
1929	6,252	47.3	1937	9,009	53.5
1930	6,231	47.7	1938	9,462	54.5
1931	6,693	48.7	1939	10,176	54.8
1932	7,500	48.9	1940	11,287	55.7
1933	7,652	49.4			

These figures indicate the upward trend of the "heart deaths" among men over 45 and show that the percentages have steadily increased during the fifteen years from 45.1 per cent in 1926 to 55.7 per cent in 1940, a proportional increase of 23.5 per cent during the review period. This would seem to indicate that the Canadian male is no exception to the rule that diseases of the heart are primarily to be found in males over 45 years of age.

CANCER. — Second ranking cause of death in 1940, "Cancer" is a general term used to designate all

malignant growths, and includes carcinoma and sarcoma. Cancer is said to be more of a disease of civilization than of racial stocks, although the evidence is somewhat conflicting, as the reported death rates tend to indicate that the disease is less prevalent among aboriginal races.

Extensive studies indicate that cancer is on the increase. Dr. F. L. Hoffman, in a number of monographs dealing with the incidence of cancer, particularly "The Mortality from Cancer throughout the World"⁸ demonstrated this fact, fairly conclusively, while the statistical reports from various countries would likewise appear to support the theory. But whether or not the increase is real, or due to a number of particular factors is a debatable question, although the convincing analysis by Schereschewsky⁹ endeavours to show that the increase is real and not apparent. Statistics reveal that cancer is being more frequently reported as a cause of death. This may be due to the fact that it is no longer considered a disgrace to die from cancer, while the rapid improvements in X-ray facilities, and the general advance in medical practice and cancer research have made diagnosis of the disease more accurate. The widespread publicity that has been given to the disease and the extension of clinical facilities have no doubt led people to seek medical advice and care earlier, and physicians are said to have become more "cancer conscious".

It must be remembered, however, that cancer is primarily a disease of adult life, although it is found as the cause of a number of deaths in the first ten years of life. The advancing age of the population is no doubt bound to increase the death rates from cancer.

The reports of the Registrar-General of England and Wales regarding the proportion of cancer deaths to total deaths give some idea as to the rapid growth of the disease as a cause of death in that country as indicated by the following figures:

Year	Cancer Deaths per 1,000 Total Deaths	Year	Cancer Deaths per 1,000 Total Deaths
1837	7.5	1910	71.6
1850	13.5	1920	93.7
1875	20.9	1930	100.0
1900	45.5	1940	118.5

⁸ Hoffman, F. L. — *The Mortality from Cancer throughout the World*. Prudential Press, Newark.

⁹ Schereschewsky. — U.S. Public Health Bulletin, No. 155, 1925.

The following figures taken from "Mortality Studies"¹⁰ indicate the rapid increases in the incidence of cancer in the United States since the turn of the century:

Year	Rate per 100,000 estimated population	Year	Rate per 100,000 estimated population
1900	64.0	1925	92.0
1905	73.4	1930	97.4
1910	76.2	1935	108.2
1915	80.7	1940	120.3
1920	83.4		

The figures in Tables 43 and 44 show the steady increase both in the number of deaths from cancer and the crude death rate per 100,000 population in Canada from 1926 to 1940, while the diagram in Chart 18 indicates the trend of the disease during the review period. In 1926 the death rate was 80.7 and by 1940 it reached 117.2, an increase of 45.2 per cent. During the fifteen years there was only one year when the upward trend tended to falter, i.e., in 1934 when the rate dropped to 97.9 from 99.9 the preceding year. The total death toll from cancer during the review period for Canada was 155,520, an annual average of 10,368 deaths.

Cancer control is known to have its limitations, and the problem of reducing the ever-increasing death rate is probably the most baffling to medical science. It is doubtful whether much can be accomplished in the way of prevention, for the actual cause of the disease is unknown. Extensive research in every country of the civilized world has failed to reveal the causative agent, but, on the other hand, early diagnosis, use of the X-ray and radium for treatment and removal of the growths in their early stages of development have established some very remarkable and permanent cures. Only the clinician and diagnostician is fully qualified to suggest the means or the extent to which preventive measures may be instituted. Smillie¹¹ suggests that:

"the essentials of any community plan for cancer alleviation are:

- a. A dissemination of information to all the people concerning the early symptoms of the disease.
- b. Provision for early diagnosis by competent specialists.
- c. Adequate facilities for treatment."

DISEASES OF THE ARTERIES. — Diseases of the arteries ranked third among the ten leading causes of death in 1940. For the most part this is a disease of the upper age brackets, although a few deaths are recorded each year in the age group 20 to 45. The main specific cause of death included among the arterial diseases is arteriosclerosis with its forerunner, hypertension. Osler has said "A man is as old as his arteries." Thus a man of 30 may have a condition of the arteries similar to that of a man of sixty years of age. Just how long the arteries will last depends in the first place on the quality of arterial tissues which a person inherits. Whole families may show an early tendency to arteriosclerosis. In the second place, a man having received good equipment from his forebears, may subject his body to bad treatment—over-indulgence in intoxicating liquors, over-eating, continual high-pressure work under nervous strain, and over-work of the muscles, all of which tend to increase the blood pressure. These in turn cause a breakdown of the tubes containing the blood. Syphilis, one of the most important underlying causes of diseases of the arteries, is discussed under the heading "Venereal Diseases".

Diet and rest will lengthen the span of life, but just as a rubber band will not regain its lost elasticity, so too hardened arteries cannot be rejuvenated and must be accorded the same care given all worn out machines.

Sex appears to have very little bearing upon Diseases of the Arteries as males and females are affected in almost equal proportions. The figures in the following table show the total number by sex of deaths over 45 years of age, together with the annual percentage distribution to the total number of deaths assigned to diseases of the arteries from 1926 to 1940, and reveals the heavy weighting in the older age brackets.

Year	Number of deaths over 45 years of age		Per cent of total deaths from Diseases of the Arteries		Year	Number of deaths over 45 years of age		Per cent of total deaths from Diseases of the Arteries	
	Male	Female	Male	Female		Male	Female	Male	Female
1926	2,759	2,226	54.0	43.5	1934	3,698	3,514	50.1	47.6
1927	2,832	2,292	53.8	43.5	1935	4,100	4,063	49.4	48.9
1928	3,208	2,527	54.6	43.0	1936	4,544	4,429	49.9	48.6
1929	3,298	2,742	53.1	44.2	1937	4,749	4,685	49.4	48.8
1930	3,704	3,004	53.8	43.6	1938	4,902	4,879	49.2	48.9
1931	3,061	2,771	51.4	46.5	1939	5,423	5,266	49.8	48.4
1932	3,421	3,249	50.3	47.8	1940	5,798	5,739	49.4	48.9
1933	3,604	3,206	51.9	46.1					

¹⁰ United States Mortality Summaries, Vol. 16, No. 13.

¹¹ Smillie, Wilson G. — Public Health Administration in the United States, page 330.

The figures in Tables 43 and 44 show the total number of deaths from all diseases of the arteries annually from 1926 to 1940 together with the death rates per 100,000 of population. The diagram in Chart 18 reveals the steady upward trend which has taken place since 1931. In 1926 the crude death rate was 54.2 and there was a sharp rise to 1930 when the rate was 67.6; in 1931 it dropped to 57.5 and rose very sharply to 103.3 in 1940, showing an increase of 79.7 per cent in nine years.

The total deaths due to diseases of the arteries during the review period was 116,048, an annual average of 7,737 deaths.

VIOLENT DEATHS. — Deaths from violence, including suicides, homicides and accidents, ranked fourth among the ten leading causes of death in 1940. The following figures show the annual percentages of deaths from suicides to total violent deaths from 1926 to 1940.

Year	Per cent of violent deaths	Year	Per cent of violent deaths	Year	Per cent of violent deaths
1926	11.6	1931	14.0	1936	12.4
1927	12.1	1932	15.4	1937	13.3
1928	10.8	1933	14.8	1938	13.2
1929	11.7	1934	14.3	1939	13.6
1930	13.5	1935	13.1	1940	12.8

The stronger sex resorts to suicide more frequently than does the weaker. Women resort, generally speaking, to the more passive forms of self-destruction such as poisons and drownings, while the male is more violent and prefers to quit this transitory orb by the means of firearms and hanging. The occupational incidence of suicides shows a very considerable variation, and the highest death rates are usually found between the ages of 35 and 70 in Canada. Suicide is usually the termination of physical or mental illness, economic depression, worry and fear; to sum up in the words of Dublin and Lotka¹²

"It does represent, however, a heavy toll and a very real social wastage, much of which undoubtedly can be prevented. In dealing with suicide we are considering a complex phenomenon, the frequency of which is influenced by three factors: all manner of extraneous situations over which the individual has no control; the group attitudes which prevail in the particular society in which a person lives; and the character and temperament of the one who takes his own life. In the last analysis, it is an action indicative of a badly integrated personality—one unable to withstand the ordinary strains and stresses of life. It is, on the whole, the end

result of personal maladjustments and frustrations which can often be avoided were the individual in question helped, before it is too late, to solve his conflicts in a more constructive fashion."

Tables 43 and 44 give the total deaths and the death rates per 100,000 population for deaths by suicide from 1926 to 1940. The figures show that there has been a fairly wide variation in the Canadian trend, with a final tendency to increase slightly during the long term. In 1926 the crude death rate was 7.2, the lowest recorded during the period while the highest rate during the fifteen years was 9.9 in 1930. In 1940 the rate was 8.3. Suicidal deaths during the period totalled 13,597, an annual average of 906 deaths.

Homicidal deaths are a relatively minor factor for consideration, being responsible annually for roughly only 2.5 per cent of all deaths due to violence.

By far the greatest proportion of violent deaths are directly due to accidents. Accidents were for many years considered the main concern of police departments, accident prevention societies, highway traffic officials, etc. Accident prevention in view of its relationship to disease and disease prevention has now become one of the major problems in the field of public health. Much study of this problem has revealed quite conclusively that accidents are largely due to a combination of environmental and personal factors, and that there is just as much organization needed for the prevention of the underlying causes of accidents as for the prevention and control of tuberculosis, venereal diseases, and a host of other public health problems. It is for this reason that most modern health departments today have established Divisions of Industrial Hygiene to study the causes of sickness, accident and death in the industrial plants of the country.

While complete and detailed national statistics regarding injuries from accidental causes are lacking, mainly due to the difficulty of collection, attempts are being made to collect such data concerning accidents among certain specific groups of the population. As revealed by the following figures which have been assembled by the Transportation Branch of the Dominion Bureau of Statistics, from material received through various agencies of the provincial governments, the information deals only with certain specific types of accidents which occurred on the highways of Canada, as the result of motor vehicle transportation.

¹² Dublin, Louis I. and Lotka, Alfred J. — Twenty-five Years of Health Progress, page 407.

FATAL AND NON-FATAL MOTOR-VEHICLE ACCIDENTS IN CANADA,
1936 TO 1940.¹

	1936	1937	1938	1939	1940
Accidents.....	29,119	39,932	40,934	40,812	49,967
Persons killed.....	1,257	1,581	1,447	1,469	1,656
Persons injured.....	23,207	25,703	24,585	25,104	29,504

¹ Canada Year Book.

Statistics of fatal industrial accidents are compiled by the Department of Labour of Canada. The data are obtained from provincial Workmen's Compensation Boards, the Board of Railway Commissioners for Canada and various other governmental authorities, through the medium of departmental correspondence, and from press clippings. The following figures give a résumé from 1926 to 1940:

FATAL INDUSTRIAL ACCIDENTS IN CANADA, BY INDUSTRIES,
1936 TO 1940.¹

Industry	1936	1937	1938	1939	1940
Agriculture.....	127	156	156	162	127
Logging.....	133	149	143	148	177
Fishing and trapping.....	57	52	30	29	34
Mining, non-ferrous smelting and quarrying	181	201	253	168	175
Manufacturing.....	112	157	136	110	144
Construction.....	105	170	154	133	173
Electric light and power.....	14	23	19	25	25
Transportation and public utilities.....	240	227	166	181	236
Trade.....	45	46	44	44	51
Service.....	89	65	66	70	65
Miscellaneous.....	4	1	—	—	1
Totals.....	1,107	1,247	1,167	1,070	1,208

¹ Canada Year Book.

Statistics of railway accidents are compiled by the Transportation Branch of the Dominion Bureau of Statistics. All injured passengers are included in the following figures, but for employees, only those cases which were kept from work for at least three days, during the ten days following the accident, are recorded.

FATAL AND NON-FATAL MOTOR-VEHICLE ACCIDENTS IN CANADA,
1936 TO 1940.¹

	Steam Railways					Electric Railways				
	1936	1937	1938	1939	1940	1936	1937	1938	1939	1940
Passengers										
Killed.....	6	5	4	1	6	—	—	1	1	1
Injured.....	691	426	351	362	378	1,503	1,566	1,712	2,039	2,263
Employees										
Killed.....	93	77	54	58	59	2	2	1	3	2
Injured.....	6,338	5,774	4,961	5,170	6,231	280	364	314	353	363
Others ²										
Killed.....	282	265	237	240	235	41	43	34	33	39
Injured.....	703	729	568	583	606	651	679	605	764	847
Total										
Killed.....	381	347	295	299	300	43	45	36	37	42
Injured.....	7,732	6,929	5,880	6,115	7,215	2,434	2,609	2,631	3,156	3,473

¹ Canada Year Book.

² Includes trespassers walking along tracks, stealing rides, etc., also persons crossing tracks at level crossings.

That the whole accident problem is one for serious consideration is instanced by the following figures taken from reliable sources concerning the situation in the United States. In 1940¹³ accidental deaths (all) had risen to fifth place in frequency as a cause of death in the United States, although the death rate tended to fluctuate considerably from 1900 when the rate was 72.3 per 100,000 population. In 1910 the rate was 84.5; in 1920 it dropped to 71.0; in 1930 it increased to 80.4, while in 1940 it was 73.6.

The National Safety Council, Inc.,¹⁴ recently published the results of its annual nationwide Survey of Injuries and Deaths in the United States in 1941.

The report shows among other things that:

"200,000 soldiers, sailors or marines could have been supplied with war equipment produced in the time lost through accidents in 1941.

"460 million man-days was the loss at 1941 accident rates. This includes standard time charges for deaths and permanent disabilities. It was the labour equivalent of 1,500,000 workers."

and that:

40,000 were killed by motor vehicles;

31,500 were killed in the home;

18,000 were killed in industry; and

15,000 were killed in public places (exclusive of automobile accidents).

and that, during a ten minute safety speech:

"2 persons will be killed and 180 injured...

Total accident costs will amount to \$76,000."

The following table constructed from the same source¹⁵ summarizes the man-power and economic costs as estimated for 1941.

ACCIDENTAL INJURIES AND THEIR COST IN 1941.

Severity of Injury	Total	Motor Vehicle	Public (not Motor Vehicle)	Home	Occupational
All injuries.....	9,400,000	1,450,000	1,800,000	4,700,000	1,600,000
Deaths.....	102,500	40,000	15,000	31,500	18,000
Non-fatal injuries..	9,300,000	1,400,000	1,800,000	4,650,000	1,600,000
Permanent disabilities.....	350,000	110,000	50,000	130,000	70,000
Temporary total disabilities.....	8,950,000	1,300,000	1,750,000	4,500,000	1,500,000
Cost	\$000	\$000	\$000	\$000	\$000
Total.....	2,700,000	950,000	400,000	600,000	850,000
Wage loss.....	1,950,000	660,000	310,000	440,000	560,000
Medical expense.....	300,000	50,000	70,000	140,000	90,000
Overhead cost of insurance.....	450,000	250,000	10,000	10,000	190,000

¹³ United States Mortality Summaries. Vol. 16, No. 41.

¹⁴ Accident Facts. — 1942 Edition.

¹⁵ Ibid. page 58.

While factual data regarding accidental injuries are not available, upon which to construct similar estimates for Canada, there is no reason to suppose that the situation is any better in this country.

Practically no improvement is seen in the death rate per 100,000 population for violent deaths, exclusive of suicides, from 1926 to 1940. The diagram in Chart 18 reveals that violent deaths as a group tended to increase quite rapidly from 1926 when the rate was 62.2 to 1930 when the rate reached 73.3. The increase is found in both the deaths exclusive of suicides, and among suicides when taken as a unit. It is worthy of note that these years cover the prosperity period of the late twenties and the pre-depth depression years. From 1930 to 1933 there was a straight line trend of decrease when the rate dropped to 58.3. The decrease is evident in both sections of the group, and is due no doubt to economic factors related to the depth of the depression when travel had been reduced quite considerably and the first effects of the 1929-1930 financial slump had worn off. In 1934 the rate was 59.8 and by 1936 it had increased to 67.8, the rise being found in the section exclusive of suicides. From 1936 to 1940 when the rate was 65.2 the trend tended to fluctuate slightly. During the review period the total deaths from violence totalled 103,708, an annual average of 6,914 deaths.

NEPHRITIS. — Nephritis in all its forms ranked fifth among the ten leading causes of death for Canada in 1940. Acute nephritis is due to the action of a foreign agent upon the kidneys, such as bacillary infection, and removal of the causative agent usually clears up the nephritic condition. However, should the acute condition continue over a period of time, as frequently occurs in such cases as scarlet fever, it may degenerate into a chronic condition.

Chronic nephritis is an incurable affection and the pathological conditions upon which it depends are quite beyond the reach of medicine. In many cases the onset is insidious and the patient will have no symptoms whatsoever to warn him that a very serious condition exists. Chronic interstitial nephritis is almost invariably associated with arteriosclerosis and hypertrophy of the heart. Though nephritis is said to be incurable a victim of the disease may still live a normal life from ten to fifteen years, if a proper dietary course is followed and life regulated so as to throw the least possible strain upon the heart, arteries and kidneys.

The Vital Statistics of Canada show that nephritis is a disease of the upper age brackets and is most prevalent among men and women over 45 years of age. The figures in Tables 43 and 44 give the total deaths from all forms of nephritis together with the

crude rate per 100,000 population. The diagram in Chart 18 reveals that since 1933 an upward trend in the number of deaths assigned to this disease is apparent; this may be caused to some extent by the advancing ages of the population. The crude death rate in 1926 was 54.4, while 1937 was the peak year when the rate was 58.8; the lowest rate during the fifteen year period was in 1931 when the rate declined to 49.9; in 1940 the rate increased to 60.1. During the review period deaths from nephritis amounted to 88,280, an annual average of 5,825 deaths.

DISEASES OF EARLY INFANCY. — Sixth ranking cause of death in 1940, the prominence of diseases of early infancy indicates the importance of infant mortality to the total number of deaths each year in Canada. It should be pointed out, however, that deaths of infants under three months for which it was reported that no doctor was in attendance and for which no cause of death was assigned are included in this group, under the specific title "Other diseases peculiar to early infancy".

The group for diseases of early infancy comprises such specific titles as "congenital debility", "premature births", "injuries at birth" and "other diseases peculiar to early infancy".

The trend for diseases of early infancy as indicated in Chart 18, was consistently downward from 1926 when the rate per 100,000 population was 104.9, to 1939 when the rate dropped to 54.6, with a slight increase to 55.6 in 1940. It will be seen that during the fifteen years the rate has been almost halved. During the review period the total mortality from diseases of early infancy was 116,924 or an annual average of 7,795 deaths.

The significant features concerning diseases of early infancy in the Vital Statistics of Canada are covered in detail in Chapter V—Infant Mortality.

PNEUMONIA. — Pneumonia was seventh among the leading causes of death in 1940. Of all the acute diseases pneumonia is the most prevalent and fatal. As a cause of death much of its wastage is not apparent to the casual observer, because it does not represent a single entity as the title "Pneumonia" would appear to indicate in Tables 43 and 44. It must be borne in mind that the total deaths assigned to pneumonia as the sole cause does not include those in which the infection was merely a terminal condition resulting from some other cause, such as measles or influenza. Pneumonia mortality figures are unsatisfactory owing to the difficulties of diagnosis, classification and tabulation. It has been estimated that ten per cent of all deaths in the United States from 1900 to 1920 were due to some form of

pneumonia. Some authorities assert that it is impossible to say whether pneumonia is increasing or declining. Although according to the United States Mortality Statistics¹⁶ and the Vital Statistics of Canada it appears to be receding, this may be another instance where the trend is more apparent than real.

Pneumonia is peculiar to no climate, but shows a distinct tendency to seasonal prevalence. It is most frequent in Canada and the United States during the winter and early spring months. Neither is pneumonia a respecter of ages, as it attacks young and old, rich and poor, with equal severity, but the incidence is more marked at the extremes of life. Of pneumonia Osler¹⁷ said

"Pneumonia may well be called the friend of the aged. Taken off in an acute, short, not often painful illness, the old escape those 'cold gradations of decay' that makes the last stage of all so distressing."

Pneumonia is seldom epidemic of its own volition, but as a secondary condition the disease may become epidemic when influenza, measles, whooping cough, etc., are prevalent in widespread proportions. Over-crowding, as in barracks and industrial plants, etc., is said to develop a susceptibility to an excessive prevalence of pneumonia, particularly when a specific type of the infection is present.

The figures in Tables 43 and 44 and the diagram in Chart 18 reflect the situation in Canada when pneumonia is recorded as the main cause of death. In 1926 the death rate per 100,000 population for pneumonia deaths was 89.3 and in 1940 it had declined to 53.9, indicating a general downward trend during the review period with an actual percentage reduction of 39.6. The curve in the chart shows some variations up until 1929, then a steady decline is indicated to 1935, when an increase in the rate is evident for the next three years and a more rapid decrease for the last three years of the review period.

It is interesting to note that the increase in the crude death rate from 1935 to 1937 was coincident with the advent of sulphanilamide drugs in the treatment of many types of infections, while the very marked decrease from 1938 to 1940 would on the other hand seem to indicate that the more general use of such drugs is having an effect at least upon pneumonic infections. A similar trend is evident in the case of puerperal sepsis among Canadian mothers, where the use of the sulphanilamides is apparently having a like effect in the reduction of maternal deaths from this cause. During the review period deaths from pneumonia totalled 109,881, a yearly average of 7,325.

TUBERCULOSIS. — Tuberculosis in all its forms ranked eighth among the ten leading causes of death in 1940, and is one of the major problems in public health.

"Tuberculosis is the most damaging and widespread of all the major infections. It is a disease of cattle in barns, not on the range; chickens in coops, not birds in nature; monkeys in zoos, not in the jungle; man in houses, not primitive races. Since the beginnings of written history tuberculosis has taken a greater toll of human life than any other disease. It kept first rank on mortality tables in almost all countries until the last fifteen or sixteen years, since which time the situation has been steadily improving."¹⁸

Tuberculosis takes its heaviest toll during the industrial years in the span of life between the ages of 16 and 65 years. The world toll in this age bracket is in the neighbourhood of 30 per cent of all deaths. Twenty-five years ago, one-eighth of the total world mortality was due to the ravages of "man's most universal scourge"—tuberculous infection. It is more prevalent among the poorer classes than among those in the upper economic levels. Many people infected with tuberculosis recover spontaneously and civilized man is said to have developed a distinct resistance to the disease. Even before the nature of the infection was known, tuberculosis began to decline. It has already become a class disease and prevention of tuberculosis is today a medical-social problem. Early diagnosis is an important factor, both to the infected person and to the community.

On the North American continent, during the past fifty years, reductions in the death rates from tuberculosis have been truly remarkable. In the United States the tuberculosis death rate dropped from 249 per 100,000 of population in 1890 to 46 in 1940, a reduction of 82 per cent. The public health campaigns for the prevention of tuberculosis have been particularly successful in the fight against this original "Captain of the Men of Death". Yet, during the past fifteen years 1926 to 1940, over 106,192 Canadians died from the effects of tuberculous infection. The majority of these deaths could have been prevented by (1) avoiding infection, and (2) improving resistance. An improvement in nutrition, better housing, the elimination of over-crowding, over-work and worry, greatly improves the resistance to the disease. Science has gone a long way in demonstrating the pattern for eradicating tuberculous in-

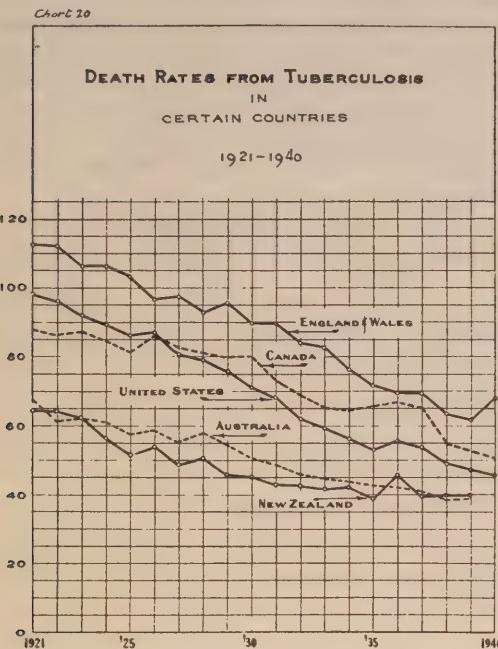
¹⁶ United States Mortality Summaries. Vol. 16, Nos. 26, 27 and 28.

¹⁷ Osler, Sir William. Principles and Practice of Medicine, page 79.

¹⁸ Rosenau, Milton J. — Preventive Medicine and Hygiene, page 27 (1935).

fection, but it remains for society generally to apply the full programme of the preventive measures.

The Canadian tuberculosis death rates in comparison with four other countries are shown in Chart 20. The countries chosen for comparison were selected upon the basis that the method of diagnosis and classification of causes of death is fairly uniform, and in which other factors, such as clinical techniques and standards of living are relatively favourable.



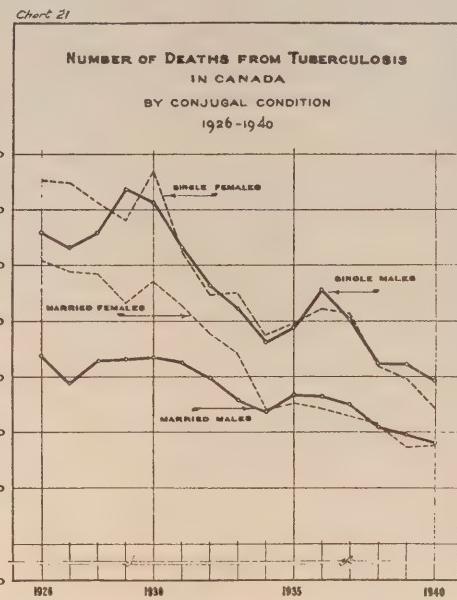
The chart reflects a general downward trend of the tuberculosis death rate per 100,000 population in all five countries. It indicates that the death rate was approximately halved during the twenty year period under review and shows an amazing uniformity in trend which is in fact almost parallel. At the beginning of the first decade, Canada's death rate ranked third, but in 1927 it crossed above that of the United States, although the trend continued steadily in a downward direction. The slight hump in the curve around 1935 to 1937 may have been occasioned by the extension of preventive control facilities which were inaugurated by the provinces about that time. A resulting improvement in diagnosis may be the reason for the rise in the death rate.

Pulmonary infection claims by far the highest percentage of tuberculosis deaths each year. The aggregate of 87,307 deaths from pulmonary tuberculosis, over the fifteen year review period, 1926-1940, gives a yearly average of 5,820 deaths or an average percentage of 82.2, which is indicative of the

constant norm for tuberculosis of the respiratory system. Tuberculosis of the meninges and central nervous system was second in importance, with an average percentage of 7.2 on an aggregate of 7,640 deaths, or a yearly average of 509. In third place, with 4,000 deaths, came tuberculosis of the intestines, producing a yearly average of 267 deaths or a ratio of 3.8 per cent. The deaths from all other types of tuberculosis infection were a negligible factor. In no case did any of these contribute more than two per cent of the total fatalities in any year. In most instances the ratio of deaths from these types of infection constituted a fraction of one per cent.

In Chart 21 the fatalities from tuberculous infection are classified by sex in two groups, namely:

- (1) the single group—persons dying from tuberculosis who had never been married; and
- (2) the married group—persons dying from tuberculosis who had been married at some time prior to death.



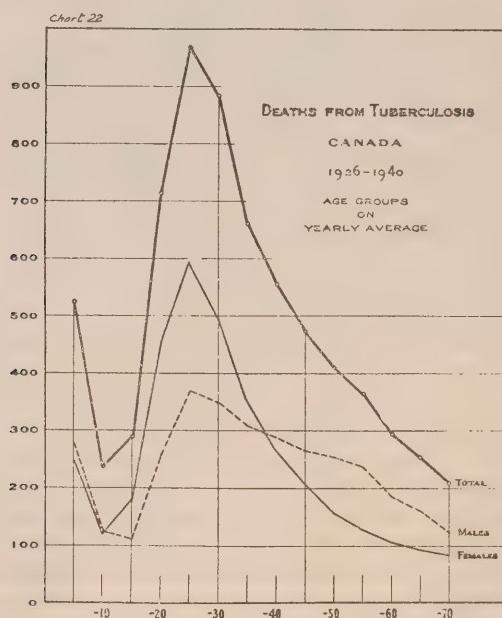
This chart reveals that at the beginning of the fifteen year period, 1926-1940, the proportion of deaths in the single group for both sexes was much higher than that in the married group; that the proportion of deaths among married females was far in excess of the proportion among married males; and that by the end of the period the downward trend in the single groups was more marked than in the married groups. Particularly was this so during the last three years. At the beginning of the fifteen year period the single female deaths exceeded the single

male deaths, but by the end of the review period the situation was reversed. In the case of married males and females the same trend is evident to an even greater extent.

One might, at this point, digress for a moment to consider the probable influence of social factors upon the marital death sex trend. It is possible that the so-called "emancipation of women", with all that it implies, has had some effect in reducing the female death rate from tuberculosis. This line of speculation is, of course, analogous to that which would ascribe the higher death rate among the coloured groups in the United States to their position in the social fabric.

It is regrettable that Canadian death certificates do not show the marital status of the deceased at the time of infection by the tubercle bacillus, for if this information were available, susceptibility to the infection might be measured in relation to marital status and the truth of the statement which is sometimes advanced, namely, "that married persons are more susceptible to tuberculous infection than single persons" could then be tested.

Chart 22 shows the number of deaths in each five year age group under seventy years of age, by sex distribution.



Owing to the difficulty of obtaining reliable intercensal estimates of population by age groups, the chart is based upon the yearly average of deaths from tuberculosis for the fifteen year period, 1926-1940. The outstanding feature of this chart is the peak

which indicates the heavy death toll from tuberculosis infection in the age group 20 to 24 years. Another significant feature is the large proportion of female deaths which comprises 61.2 per cent of all deaths in the age group. In the 25 to 29 year age group the females accounted for 58.6 per cent of the deaths. Female deaths exceeded male deaths in the younger age groups, but within the age group 35 to 39 the situation was reversed. In the upper age groups the males showed an increase over the females. It will be observed that in the chart broader age groups have also been indicated, namely, under 15 years of age, 15 to 29 years, 30 to 34 years, and 45 to 69 years. The Table following shows the deaths in these five broader age groups, together with the sex distribution and percentages in each group.

TUBERCULOSIS DEATHS IN SPECIAL AGE GROUPS,
BY SEX AND PERCENTAGE.

Age Group	Total Deaths	Males		Females	
		Deaths	Per cent	Deaths	Per cent
Under 15.....	1,048	507	48.4	541	51.6
15 to 29.....	2,527	982	38.9	1,545	61.1
30 to 44.....	1,684	858	51.0	826	49.0
45 to 69.....	1,529	956	62.5	573	37.5
70 and over.....	291	157	54.0	134	46.0
Total.....	7,079	3,460	48.9	3,619	51.1

Under 30 years of age the percentage of deaths of females was higher than that of males. Under 15 years of age the female percentage was 51.6, while in the age group 15 to 29 years the females claimed as high as 61.1 per cent of the total deaths in the age group.

Over 30 years of age the reverse is observed and the deaths of males exceed those of females. In the age group 30 to 44 the males claimed 51 per cent of the deaths. In the age group 45 to 69 males claimed 62.5 per cent. Over 70 years of age the males claimed 54 per cent of the total deaths. Of the total deaths below 30 years of age females accounted for 58.3 per cent of the deaths, while above 30 years of age the males claimed 56.3 per cent. Of the average yearly deaths from tuberculous infections for the 15 year period, deaths under 30 years of age were slightly in excess of deaths over 30 years of age, with 50.5 per cent of the total deaths from tuberculosis.

The Vital Statistics of Canada demonstrate then that if tuberculosis is in the main wholly preventable, and that if Canada is to completely eradicate this social scourge or even maintain the present rate of decrease, there must be an extension of and a

closer co-ordination of the present tuberculosis prevention services throughout the country.

Rosenau¹⁹ says:

"The prevention of tuberculosis depends upon the same general principles as the prevention of other communicable diseases, but in tuberculosis the application of these principles is more complex. Certain factors, such as age and race, may predispose to infection; certain occupations and diseases appear to lower individual resistance; environmental factors may both diminish resistance and favor the transmission of infection. Consequently any comprehensive system of control must be sufficiently diversified to utilize all effective methods of attack and so co-ordinated as to avoid omissions and duplication of effort."

NOTE: — See also "Tuberculosis" under heading "Communicable Diseases".

INFLUENZA. — Influenza ranked ninth among the ten leading causes of death in 1940. As already stated in the introductory part of this chapter, Influenza is not a new disease—an epidemic, probably influenza, was recorded as early as 1173 and the first authentic outbreak was described in 1510 by those famous physicians Willis and Sydenham. Since 1173 there have been eighty major epidemics, the records of which are more or less authentic and of these fourteen reached pandemic proportions. When influenza sweeps the world in pandemic form it becomes the most serious and furious of epidemics because of the large number of persons under attack in a short period of time. Some authorities aver that influenza of itself probably never kills but that death is due to the development of some complicating diseases, usually pneumonia.

The world wide pandemic of 1918 to 1919, is reported to have arrived on the North American continent in September of 1918 and by November it was difficult to find a community anywhere which was not affected by the ravages of the disease. The duration of an epidemic in a locality is from six to eight weeks, disabling community life as so many are placed on the incapacitated list at the same time. Like pneumonia it affects all classes and is no respecter of race, sex or age. In the pandemic of 1918 records show that it was particularly virulent in pregnant women. It strikes the rich and poor—the clean and the dirty—and, therefore, personal hygiene and sanitation have practically no effect in controlling influenza. As a preventive the use of masks in 1918 was found ineffective and the closing of schools, churches and other places of public gatherings had little or no effect when the epidemic was at

its height. Epidemiology and medical research have proven that sooner or later there will be further epidemics and pandemics. Such may appear within a few years or even a few months, or they may postpone their ravages for many years. If advances are made in the study of influenza as rapidly in the future as in the past, there should be developed, and available in adequate quantities, a vaccine with which to immunize communities when an epidemic seems imminent, since it travels from "place to place in a pair of shoes". The knowledge that an outbreak has occurred at one point should be a "red light of warning" which would enable the epidemiologist and the laboratory technician to institute suitable preparations for combatting the spread of the disease to other localities. It is for this reason that health authorities on this continent keep a constant watch for the reports of communicable diseases from the various state and provincial health departments.

Tables 43 and 44 show the total deaths and the crude death rates per 100,000 population from 1926 to 1940, and Chart 18 reveals that while the general trend for this disease has been downward a number of annual variations have appeared during the fifteen years, which are probably due to mild epidemics. In 1926 the rate was 52.8; in 1940 it dropped to 24.5, while the definite peak years were 1929 when the rate was 69.7 and 1937 when the rate was 47.4. The total death toll during the review period was 56,616, an annual average of 3,774 deaths.

INTRACRANIAL LESIONS OF VASCULAR ORIGIN. (CEREBRAL HAEMORRHAGE). — Cerebral haemorrhage ranked last among the ten leading causes of death in 1940. Though a disease of the upper age brackets, as a cause of death it would appear to be running an opposite course to the other diseases peculiar to an ageing population, but the downward trend is definitely more apparent than real, for when joint causes of death are mentioned in the transcripts, cerebral haemorrhage, cerebral embolism and thrombosis are seldom tabulated as the cause of death. They are generally considered a terminal condition, therefore the disease initiating the trend of events is assigned the preference over the "cerebral haemorrhages". The figures for cerebral haemorrhage do not show the true incidence of the disease. Nephritis, heart and arterial conditions, many types of operations, accidents and maternal deaths may all show a terminal cerebral haemorrhage. This, taken into consideration with the fact that the disease is one of the ten leading causes of death in Canada, would seem to indicate that a study of every death in which cerebral haemorrhage appeared would

¹⁹ Rosenau, Milton J. — Preventive Medicine and Hygiene, pages 48-49.

give a very different picture, but one must remember that it is the "cause" that counts.

Very little can be done in the way of treatment—one haemorrhage may prove fatal, but on the other hand people have been known to live fairly normal lives after an attack—others have lived on with a residual paralysis which has in some instances completely incapacitated them, or partially disabled or impaired their faculties.

Tables 43 and 44 give the total number of deaths and the crude rate per 100,000 population for cerebral haemorrhage from 1926 to 1940, while the diagram in Chart 18 shows the apparent very striking downward trend of the disease. In 1926 the death rate was 45.0 and by 1940 it had dropped to 20.2, a percentage decrease of 55.1. The very remarkable drop in the crude death rate for cerebral haemorrhage no doubt reflects the very definite improvement in certification of causes of death by the physicians of Canada, and speaks well for the united efforts of the Canadian Public Health Association, the Medical Schools of Canada, the Provincial Divisions of Vital Statistics and the Dominion Bureau of Statistics, who for a number of years have striven to give to the medical profession a clearer understanding of the need for greater precision and uniformity in certifying causes of death.

During the fifteen year period deaths assigned to cerebral haemorrhage totalled 46,538, an annual average of 3,103 deaths.

So much for the "Ten Leading Causes of Death" in Canada, now let us have a look at some of the other less costly "killers" in point of numbers.

TYPHOID FEVER, MEASLES, SCARLET FEVER, WHOOPING COUGH AND DIPHTHERIA.—Known more commonly as the principal communicable diseases of childhood, Diphtheria, Measles, Scarlet Fever and Whooping Cough have, as a whole, shown a marked downward trend. Typhoid fever, which will be considered in this group also, has dropped in the comparatively short span of twenty-five years from a leading position among causes of death to one of minor importance. This drop has been more rapid than that of any other disease. Diphtheria which has been known for centuries and has taken a heavy toll of human life has now been brought under control as is evidenced by the sharp decline in the death rate. Specific weapons to fight against both Typhoid and Diphtheria have been discovered, the use of which has brought about the decline in these diseases. In the case of whooping cough, measles and scarlet fever, no such weapons exist, but it is a curious fact that

these three diseases of childhood have recorded large declines over the review period. This downward trend is unquestionably due in large part to the improved standard of living, the attention which has been paid to the improvement of child health and more and better medical and nursing care. It has been revealed through research by competent investigators that scarlet fever, in recent years, has exhibited a diminished virulence. The lowered mortality rate is the outcome of this, rather than from any marked decline in the incidence of the disease. Whether this milder type now prevalent will continue, or whether it will revert to a more virulent type is a matter for conjecture.

The use of convalescent serum for measles is both too recent and too limited to account for any substantial part of the downward trend which has been observed for at least half a century. The low fatality rate for measles unfortunately lulls people into the belief that the disease is quite harmless, when in fact it is a serious enemy of child life and, though not fatal, it leaves many cases of serious impairment. The difficulty in suppressing measles lies in the fact that the highly infectious period is prior to the eruptive stage, so that the child has been able to transmit the disease before he is known to have it, and by that time there are no active means of immunization.

The trend of whooping cough has fluctuated widely from year to year but, on the whole, has been definitely downward. However, periodic outbreaks in which the fatalities will exceed those of scarlet fever show that the disease is far from being under control. There exists a need for arousing parents to the seriousness of whooping cough, as there is more reprehensible neglect in connection with this than with any other disease.

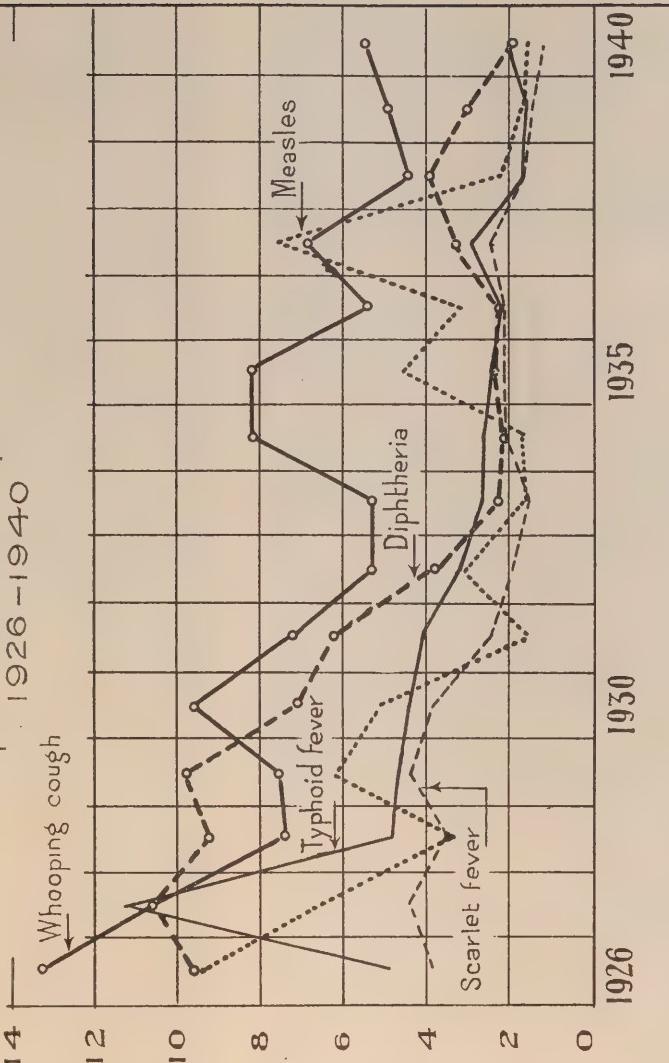
Chart 19 reveals the trend for all five of these diseases over the review period and reflects very definite reductions. The peak in 1937 for measles was due largely to an epidemic among the Indians of British Columbia.

The following figures show the total wastage caused by each disease, together with the individual annual averages during the fifteen years from 1926 to 1940:

Disease	Total Deaths	Annual Average
Typhoid Fever	5,776	385
Measles	6,158	411
Scarlet Fever	4,039	269
Whooping Cough	11,362	757
Diphtheria	7,947	530

Chart 19

DEATHS
TYPHOID FEVER, SCARLET FEVER, DIPHTHERIA,
WHOOPING COUGH, MEASLES
Rates per 100,000 of Population
1926-1940



POLIOMYELITIS AND POLIOENCEPHALITIS (ACUTE).—Poliomyelitis (infantile paralysis) is typically a disease of childhood, though it is found in all age groups. The death rate is low and the largest number of deaths occur in children before the age of five. All classes are affected in about equal proportions. Though considered a modern disease, cases of sudden paralysis in babies are recorded in the literature of antiquity, some of which are now believed to have been due to infantile paralysis. The disease has become more and more common and widespread of late years with reports from many countries of epidemics of large or small proportions. The epidemic of 1916 in the United States was one of the worst known in the history of the disease.

No definite effective system of prevention can be formulated until the scientist is sure of the mode of transmission. Vaccination is still in the experimental stage.

The "Kenny method" for the care and treatment of poliomyelitis victims, of which so much has been written recently, may have a far-reaching effect on the future of this disease, as it seems to assure that the dreaded residual paralysis can be avoided.

During the first six years of the period (1926 to 1931) the trend of poliomyelitis was upwards, from a rate of 1.0 per 100,000 population to a rate of 2.2. From then on, with the exception of 1937, the trend to 1940 was downward to a rate of 0.4. The peak in 1937 was due to a small epidemic in Ontario, where 119 out of the total of 200 deaths for the whole of Canada occurred. The total number of deaths recorded from this disease from 1926 to 1940 was 1,927, an annual average of 128 deaths.

LETHARGIC OR EPIDEMIC ENCEPHALITIS.—Epidemic encephalitis (Sleeping sickness) is an acute infection due to a specific virus, which is assumed to enter the system through the nose and throat, and like infantile paralysis, has a special affinity for the central nervous system, although its effect is quite different.

There are different types. In one type the fatality rate is variable, and the incidence low, but steadily increasing. Encephalitis is rarely found in children, being common to adults of both sexes. An epidemic was recorded in Vienna in 1916-1917 and after appearing in various other countries, reached the United States in 1918, since when it has spread to the four corners of the globe. It is rapidly becoming a problem of serious magnitude. A second type

differs from the former in that the onset is less acute and the death rate lower. The dread of both types is the after effects, of which mental deterioration is the worst. This type likewise affects adults. Both types seem to be transmitted by human beings.

A new type known as the "equine type" because it may be transmitted by horses, has come to light in very recent years, in the Western Provinces and the North-western States. The mortality rate for this type is very high.

It is interesting to note that the increase in the prevalence of encephalitis sometimes (not always) accompanies or succeeds an influenza epidemic.

Tables 43 and 44 which show the Canadian experience for fatal cases of encephalitis from 1926 to 1940, both in point of numbers and in crude death rates per 100,000 population, reveal that there has been very little variation during the fifteen year period, from the low rate of 0.4 in 1934, 1938 and 1939 to a high rate of 1.2 from 1927 to 1929. Total deaths during the fifteen years numbered 1,114, an annual average of 74 deaths.

EPIDEMIC CEREBROSPINAL MENINGITIS.—This disease is focused chiefly on the meninges of the brain and spinal cord. The organism enters and leaves the body by the nose or throat and hence infection may be spread by contact or by coughing and sneezing. Prior to the advent of the specific serum, discovered by Flexner, the death rate was 75 per cent. The use of this serum has reversed the mortality and recovery rates. The earlier it is used the better are the chances of recovery.

In civil life children and young adults are most susceptible to cerebrospinal meningitis. All overcrowding in living and working conditions which bring about close contact promote the spread of the disease. Cerebrospinal fever has long been recognized as a war disease. The First World War demonstrated the fact that young and raw recruits were susceptible.

No great epidemics of the disease have occurred but the affection is found regularly in the population. While not highly communicable it is spread by carriers who pass on the disease to susceptible individuals. Fortunately, a carrier does not remain so for long—he may be found to be free even in a month's time. In view of this, preventive measures would seem to have little practical value. In military practice it would be impossible to isolate carriers. Sprays and mouth douches have no practical value. When the disease becomes epidemic it cannot be stamped out by any known practical application.

In 1926 the death rate from epidemic cerebrospinal meningitis was 2.2 per 100,000 of population and except for the year 1929, this appears to have been about the normal rate for Canada until 1931, as shown in Tables 43 and 44. From 1932 onwards to the end of the review period a gradual slight decrease is to be observed to the rate of 0.9 in 1940. The peak year 1929 was occasioned by epidemics in Ontario and Quebec provinces, which recorded 79 and 120 deaths, respectively, out of the total of 341 deaths for the whole of Canada. The total deaths during the fifteen years numbered 2,431, an annual average of 162 deaths.

DIABETES MELLITUS. — This disease is one of the most serious problems of present day medicine. The epoch-making discovery of insulin for the control of Diabetes Mellitus by the two Canadians (the late Sir Frederick Banting and Dr. Charles H. Best) is the only instance so far of an efficacious specific treatment for any one of the major chronic diseases characteristic of old age. Despite this fact the death rate has continued to increase steadily on this continent. An explanation of this increase in the United States is in some measure due to the fact that in the last thirty years the Jewish population has increased from one to four millions and it is generally known that the Hebrew race shows a marked tendency to diabetic affection. In a lesser degree those of German, English and Irish descent are inclined to diabetes. Most of these people came to North America in their early years and are now entering in great numbers into those age groups in which mortality from diabetes is most likely to be found.

These facts taken into consideration with the advent of the use of machines which do not use up a man's energy and the rising standard of living, bringing the purchase of necessities and luxuries within the reach of all, may account for the steady increase in deaths from diabetes, as ease, luxury and indulgence are predisposing factors. The increase, however, need not be viewed with alarm. Diabetics who adhere strictly to diet and treatment, who exercise regularly and who know the danger to themselves of even the most minor skin cuts or injuries and care for them may count on a normal span of life, in which their activities may be those of the rest of the community.

Prior to the discovery of insulin such was not the case—then a diabetic led a very restricted life and diabetic children were doomed to a few months of miserable existence. One should not lose sight of the fact that insulin does not cure diabetes—it only

controls it. As yet the reason for the failure of the pancreas to secrete sufficient insulin is unknown. Since there is some evidence that diabetes is inherited in the usual mendelian ratio, the public should be warned of the danger of marrying into a family with a similar history.

Regular medical check-ups with a routine urinalysis will disclose the presence of the disease and early and continued treatment will prevent some of the distressing deaths which occur due to ignorance of the disease.

The figures in Tables 43 and 44 show that deaths from diabetes in Canada, are steadily increasing, as in 1926 the death rate was 11.1 and by 1940 it had reached 15.7. During the fifteen years the total deaths numbered 20,275, an annual average of 1,352 deaths.

INFANTILE CONVULSIONS. — Convulsive seizures similar to those of epilepsy are not infrequent in children. The fit may be identical with epilepsy but with the removal of the cause the tendency to convulsions may be eliminated. Occasionally the convulsions may continue and pass into true epilepsy. There are several underlying causes of convulsions such as debility resulting usually from disturbances of the digestive organs. Rickets and convulsions are often associated. The onset of an infectious disease is frequently preceded by convulsions. Severe convulsions usher in or accompany many of the serious diseases of the nervous system. Lastly, convulsions may occur immediately after birth and persist for weeks or months. In such instances there has probably been a brain haemorrhage or serious head injury.

The small proportion of infantile deaths assigned to convulsions is due to the fact that the disease reported with the convolution is almost invariably given preference as the direct cause in classification.

Convulsions of infants (under 5 years of age) in Canada have shown a very marked downward trend from 1926, when the crude death rate was 6.0, to 1938, when the rate decreased to 1.4; in 1939 and 1940 the rates increased very slightly standing at 1.5 and 1.7, respectively. This rapid decline was in common with a similar situation with respect to most of the preventable causes of infant deaths. It likewise, no doubt, further reflects the improvement in death certification and the increased tendency towards medical care and hospitalization. During the fifteen years the total deaths numbered 4,722, an annual average of 315 deaths. The following

figures show the proportion of infantile deaths (under 1 year) from convulsions to all deaths from the disease:

Year	Total deaths under 1 year of age	Per cent Total deaths from Convulsions	Year	Total deaths under 1 year of age	Per cent Total deaths from Convulsions
1926	440	77.1	1934	195	74.7
1927	441	79.7	1935	184	78.6
1928	348	79.1	1936	162	81.0
1929	316	73.7	1937	139	71.3
1930	291	76.6	1938	140	87.0
1931	281	76.4	1939	138	80.7
1932	234	77.0	1940	153	79.7
1933	198	75.3			

BRONCHITIS. — A disease which in the acute form is highly contagious and at times assumes epidemic proportions. It attacks all ages, but more particularly the young and the very old. Some individuals have a special disposition to bronchitis and the slightest exposure to cold may bring on an attack. In the healthy adult it is rarely fatal. With the young and the very old the disease has a definite tendency to develop into bronchopneumonia, and in the majority of such cases proves fatal.

Chronic bronchitis—a disease of the aged and of males particularly, while not fatal is distressing.

Bronchitis has shown a very definite improvement over the past fifteen years; in 1925 the rate was 6.2 per 100,000 population and in 1939 it had decreased to 2.8, with a slight rise in 1940 to 2.9. During the period the total deaths numbered 6,181, an annual average of 412 deaths.

DIARRHOEA AND ENTERITIS. — A joint disease which is particularly dangerous to very young children. The greatest number of cases occur just after the nursing period. Breast fed babies are much less susceptible to diarrhoea than those artificially fed. The highest mortality is in the second half of the first year, particularly when this period falls in the hot weather, hence the dread of "the second summer". Improper feeding, lack of maternal care, overcrowding, heat and humidity, in short imperfect hygiene and sanitation all favour the spread of the infection. Prophylactic measures in large cities have greatly reduced the cases of intestinal disorders in children, but much still remains to be accomplished before this grave menace can be overcome.

Once the second year of life is past the mortality from diarrhoea is greatly reduced, becoming a very secondary cause of death. The effect of deaths from diarrhoea in the first year of life is discussed in detail in Chapter V—Infant Mortality.

The group as a whole is covered by the figures in Tables 43 and 44. These figures reveal some variations in the trend which for the most part has been downward. In 1926 the rate was 57.7 per 100,000 population, which decreased to 49.0 in 1929; in 1930 the rate jumped to 59.0, the highest point during the fifteen years, and then decreased to 21.6 in 1936. In 1934 there was another increase to 34.5, then a downward movement to 1936 was recorded when the rate was 21.6; in 1937 a jump occurred when the rate reached 38.0 and then it dropped back to 23.1 in 1938, to 21.0 in 1939 and to 16.6 in 1940.

As already stated in Chapter V, the peak in 1937 is difficult to explain but the dispersal of the figures by provinces would seem to indicate local infections of epidemic proportions. The total deaths during the period numbered 59,169, an annual average of 3,945 deaths.

VENEREAL DISEASES. — Venereal diseases (syphilis and gonorrhoea) are preventable controllable social diseases. Usually contracted as the result of promiscuity in sex relationships, a feeling of shame has been built up over the years, which has had a definite hampering effect upon programmes which have been initiated for the suppression and control of these diseases. The moral approach to the problem has caused the public to look upon these diseases as a social disgrace, thereby impeding the arrival at the crux of the problem which is to overcome the tendency towards concealment in order that prompt medical treatment will be sought by all those affected or exposed to infection. Sexual ignorance and maladjustment are for the most part said to be the underlying causes leading to sexual promiscuity and commercialized prostitution.

Syphilis and gonorrhoea have much in common—they can be controlled and the spread of the infection prevented by the application of rigorous venereal disease laws and the provision of extensive treatment facilities. This has been ably demonstrated in the Scandinavian countries where syphilis has become a rare disease as reported by Parron²⁰:

"In Sweden, with a population of 6,100,000 there were just 431 cases of the disease in 1934; in the first half of 1935 there were only 200 cases. Multiply the population and cases by 20 and the data are comparable with those for the United States. If the rate for Sweden were applied to the whole population of the United States, we would have annually only 8,620 cases. Compare this with the Public Health Service estimates of 720,000. The rate in Sweden now is only one-tenth of the rate 15 years ago. That

²⁰ Parron, Jr., Thomas — Health Services of Tomorrow.

inadequate reporting is not a factor is confirmed by the continued high prevalence of gonorrhoea.

"In Denmark an almost comparable decline has been recorded. Denmark has a population of 2,600,000. In 1933 syphilis cases totalled 648. At the peak of the post-war epidemic in 1919 there were 7,024 cases..."

"In Norway, data for the country outside the capital, Oslo, are incomplete. In this city, however, the cases per 100,000 population decreased from 360 in 1919 to 30 in 1935."

The widespread publicity campaigns are an important factor in eventually stamping out venereal diseases. Most authorities agree that for syphilis and gonorrhoea to be effectively controlled they must be brought out into "the light", as they are diseases which are almost wholly preventable and practically always curable if aggressively treated IN THEIR EARLY STAGES.

In the words of Rosenau²¹:

"As a danger to the public health, as a peril to the family, as a menace to the vitality, health and physical progress of the race, the venereal diseases are justly regarded as the greatest of modern plagues and their prophylaxis the most stressing problem of preventive medicine. They are a prime cause of physical and mental disability and reduced economic efficiency... They are a constant menace to all classes of society, the innocent as well as the licentious."

Although the actual mortality from syphilis is not known, due to a tendency on the part of the physicians on this continent to omit syphilis from the death registration as a cause of death, the suppression of venereal diseases, particularly syphilis, is one of the major public health problems of today. Moreover, as many deaths assigned to cerebral haemorrhage, arterial and heart diseases are, in fact,

largely of syphilitic origin, the actual number of deaths from this cause is far in excess of the number recorded.

Many studies have been undertaken to measure the prevalence of syphilis, and some estimates have resulted in the belief that syphilis is the most frequent of all the communicable diseases.

It is estimated that in the United States 7,000,000 people are suffering from the effects of syphilitic infection at any given time: that one out of every ten adults will be affected by the disease at some time during his life and that the annual number of new cases receiving medical treatment each year is about 720,000. Syphilis is known to be more prevalent among men than women, while the death rates are highest in middle and later adult life, although the infection in most cases is acquired in the late teens or early twenties.

During the fifteen years, 1926 to 1940, the Vital Statistics of Canada show that 7,003 deaths, an annual average of 467, were assigned as being due to the ravages of direct syphilitic infection. Yet these figures cannot be considered as reflecting a true picture of the Canadians who died as the result of the infection or some resulting condition. In the "Canadian Surgeon" Sir William Osler, while serving with the Canadian Army Overseas in London, England, surveyed the Registrar General's Report with a view to gauging the clinical death toll from the new "Captain of the Men of Death".

The following table has been made along the lines suggested by Osler to "get nearer the truth regarding syphilis as a cause of mortality", and shows the method adopted and the results. The percentages given in this table represent the share of each of the causes of death recorded in the table considered to be due to syphilis.

²¹ Rosenau, Milton J. — Preventive Medicine and Hygiene, page 438.

DEATHS IN CANADA SAID TO BE ASCRIBABLE TO SYPHILIS, 1926 TO 1940.

	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
All causes (-1 year) 22%.....	5,212	4,842	4,663	4,768	4,783	4,479	3,798	3,582	3,491	3,461	3,206	3,672	3,194	3,067	3,032
Syphilis (1 year+) 100%.....	202	231	241	246	295	287	324	227	291	380	382	446	362	388	411
Locomotor ataxia (1 year+) 100%.....	62	73	74	56	73	65	66	73	61	74	55	79	54	50	50
Other diseases of the spinal cord (1 year+) 53%.....	228	213	213	156	148	107	117	128	133	119	147	143	143	148	153
Cerebral haemorrhage, apoplexy (25 - 54 years) 81%.....	272	289	284	289	239	230	212	223	203	164	152	158	132	147	148
Softening of the brain (1 year+) 35%.....	33	34	58	33	31	40	36	25	29	26	23	18	16	19	23
Paralysis without specified cause (1 year+) 17%.....	190	188	172	167	154	123	111	95	93	71	61	55	55	55	56
General paralysis of the insane (1 year+) 100%.....	198	165	146	152	152	195	197	190	187	228	220	219	171	202	209
Organic diseases of the heart (30-59 years) 29%.....	731	788	823	821	876	942	1,039	1,020	1,118	1,061	1,117	1,100	1,183	1,244	1,371
Diseases of the arteries (1 year+) 54%.....	2,760	2,841	3,169	3,353	3,718	3,217	3,671	3,742	3,985	4,483	4,920	5,189	5,384	5,877	6,341
Epilepsy, other diseases of the nervous system and broncho pneumonia 30%.....	953	908	1,026	1,035	980	990	989	1,004	1,024	1,056	1,109	1,172	1,109	1,076	1,063
TOTAL.....	10,841	10,572	10,869	11,077	11,449	10,675	10,561	10,309	10,615	11,123	11,392	12,251	11,803	12,272	12,857
Death rate per 100,000 population.....	114.9	109.9	110.7	110.6	112.3	103.0	100.7	96.6	98.2	101.8	103.4	110.3	105.4	108.6	113.1

Should this basis of calculation in any way approximate an accurate picture of the incidence of syphilis mortality, the disease would have been second ranking cause of death for eight years and third for the other seven years for Canada.

Chart A, showing an outbreak of syphilis in a rural county attributed to one transient male, reveals the effect on community life of one untreated case of syphilis.

Prompt reporting of venereal infections to the proper local authorities; an adequate and prompt treatment service; the establishment of free clinics and the abolition of the houses of prostitution are among the most important factors which should prevent the spread of syphilitic and gonorrhoeal infections.

Education is an important factor in preventing the spread of venereal infection. No public health programme is complete unless it provides for the education of the public suitable information relating to sex hygiene. Sex education should be taught to the Canadian children in the home and in the school. Much can be accomplished by the parent, the teacher and the clergy through the medium of properly supervised sex education of the Canadian child. Such a programme of sex education to be effective should have national leadership and be co-ordinated through the provincial health departments to the local communities.

It would appear that, due to the mode of their transmission, particularly in the case of commercialized prostitution, any programme for the suppression of Venereal Diseases should have a close liaison with the Department of Pensions and National Health, the province and local health departments.

OTHER IMPORTANT CAUSES OF DEATH. — Very little need be said concerning the remaining causes of death shown in Tables 43 and 44. They have practically no significance in the preventive medicine sense; therefore, a mere reference to their general trend during the review period should suffice:

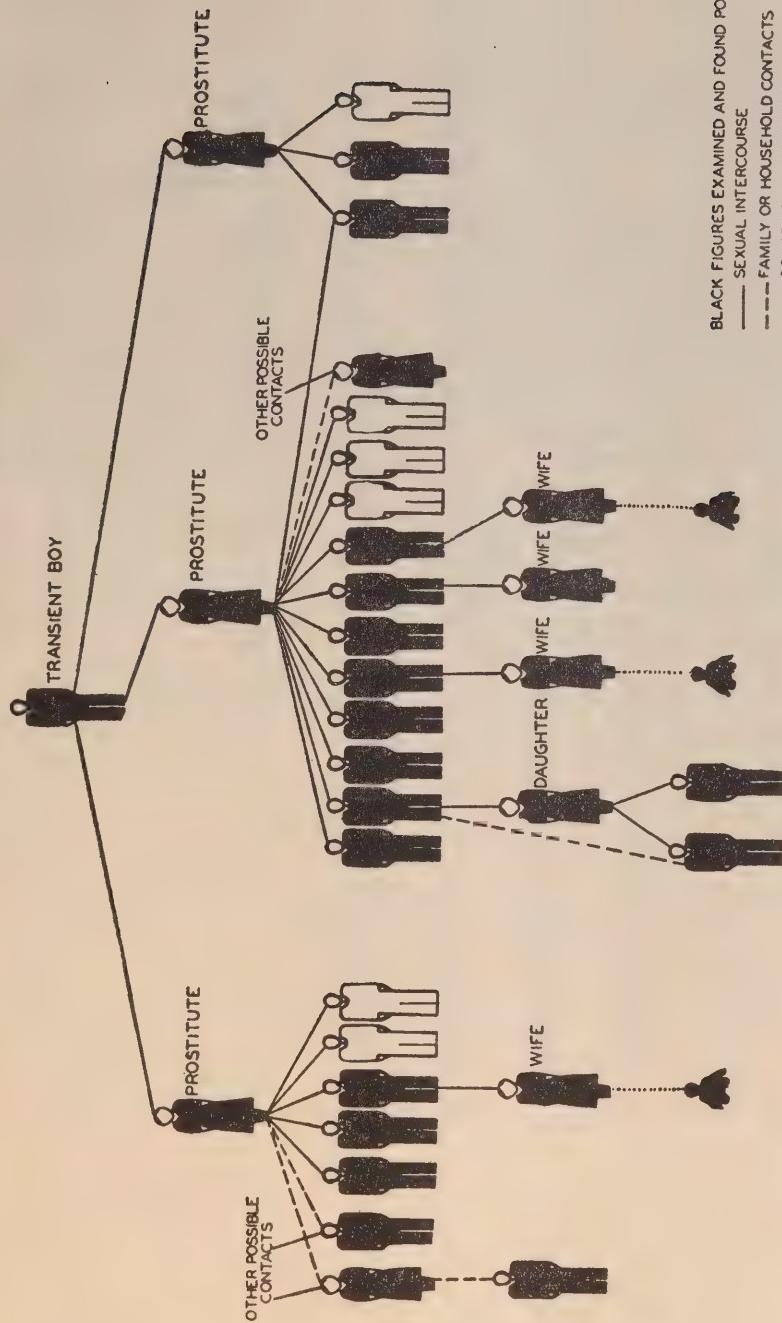
(a) Anaemia—a disease of the blood-forming organs—has a gradual decrease in numbers and also in the crude death rate per 100,000 population, from 1926 to 1940 when the rates were 11.0 and 5.4, respectively. Total deaths for the fifteen years numbered 10,674, an annual average of 712 deaths;

(b) Appendicitis—is a surgical disease, which has shown a varied course from 1925 to 1940. At

the beginning of the period the rate was 14.0 while in 1940 it was 9.7; there were two years (1930 and 1934) when the rate was 14.6. Total deaths for the fifteen years numbered 20,865, an annual average of 1,391 deaths;

- (c) Hernia, intestinal obstruction—is primarily a surgical disease, which has shown very little variation in trend from 1926 when the rate was 9.4 to 1940 when the rate was 8.7. Total deaths during the review period numbered 14,934, an annual average of 996 deaths;
- (d) Diseases of the prostate—in males only, particularly in the age brackets above 55. This disease in common with others which are characteristic of an ageing population has shown a general tendency to increase, particularly during the last six years of the review period. In 1926 the crude rate was 7.8; in 1932 it was 8.4; 1935 showed an increase to 10.0 and 1939 showed a further increase to 11.5, while in 1940 there was a drop to 10.9. Total deaths during the fifteen years numbered 14,529, an annual average of 969;
- (e) Senility—covers the aged group of decedents whose deaths cannot be attributed to any definite cause, signifying, in other words, that the human machine was just “worn out”. The deaths from this cause have shown a considerable reduction from 1926 when the rate was 29.3 to 1940 when the rate was 13.7. The reduction is due no doubt to the advance in medical science and the improvement in death certification. During the fifteen years the total deaths assigned to senility numbered 31,114, an annual average of 2,074 deaths;
- (f) Other specified causes—This is the residual group of causes of death which have a low significance in point of numbers and importance as causes of death. The decrease in the death rate has very little significance either, except to show that a very definite decrease is taking place in the number of deaths assigned to the various titles within the group. In 1926 the crude death rate was 146.5 and in 1940 it was 118.7 and except for one year (1937) the decline in the rate has been fairly constant. Total deaths during the period numbered 205,567, an annual average of 13,704 deaths;
- (g) Ill-defined Causes—this group covers the deaths which could not be assigned to any definite cause from the information supplied

OUTBREAK OF SYPHILIS IN A RURAL COUNTY MONROE COUNTY, TENNESSEE



DATA FROM KIMBROUGH, COWGILL, AND BOWERMAN.. MADISONVILLE, TENN.

CHART A

CHART BY.....THE AMERICAN
SOCIAL HYGIENE ASSOCIATION

on the transcripts. In 1926 the crude rate per 100,000 population was 13.3 and there was a rapid decline during the fifteen years to 5.6 in 1940, a drop of 57.9 per cent. This is a further indication of the improvement in medical certification of causes of death already mentioned. Total deaths during the period numbered 13,771, an annual average of 918 deaths.

SUMMARY.—This analysis of deaths in the Vital Statistics of Canada, for the fifteen years, 1926 to 1940, reveals very conclusively that vast numbers of Canadian people have died through failure to secure any or adequate medical care. This statement is based upon "the record of medical science" which proves that lives might be saved by co-ordinated application of existing medical knowledge for the prevention, treatment and cure of disease.

This chapter would seem to show among other things that in Canada:

- (1) approximately 1,400 persons (under 45 years of age) die annually from diseases of the heart;
- (2) roughly 8,000 persons die annually as the result of tuberculous infection;
- (3) between ten and twelve thousand persons die annually from the ravages of infectious diseases;
- (4) approximately 11,000 persons die annually from the effects of syphilitic infection;
- (5) between five and six thousand persons die annually as the result of accidents;
- (6) over 10,000 persons die annually from diseases of respiratory system.

The Vital Statistics of Canada, on the other hand, shows by the marked declines in the death rates for such diseases as typhoid fever, diphtheria and pneumonia, that the application of therapeutic and preventive medicine in Canada has accomplished a great deal in the reduction of "Preventable Deaths".

TABLE 36—CRUDE DEATH RATES PER 1,000 POPULATION OF VARIOUS COUNTRIES OF THE WORLD,
1935, 1936 AND 1937.

Country	1935	1936	1937	Country	1935	1936	1937
Netherlands.....	8.7	8.7	8.8	Newfoundland and Labrador.....	13.4	13.0	13.5
New Zealand.....	8.2	8.8	9.1	Scotland.....	13.2	13.4	13.9
Australia.....	9.5	9.4	9.4	Poland.....	14.0	14.2	14.0
Union of South Africa (whites).....	10.5	9.6	10.1	Hungary.....	15.3	14.3	14.2
CANADA.....	9.7	9.7	10.2	Italy.....	13.9	13.7	14.2
Norway.....	10.3	10.4	10.4	Latvia.....	14.2	14.1	14.3
Uruguay.....	10.6	9.7	10.4	Estonia.....	14.9	15.6	14.7
Denmark.....	11.1	11.0	10.8	France.....	15.7	15.3	15.0
Iceland.....	12.2	10.8	11.2	Northern Ireland.....	14.4	14.2	15.1
United States (reg. area).....	10.9	11.5	11.2	Greece.....	14.9	15.2	15.2
Switzerland.....	12.1	11.4	11.3	Eire.....	14.0	14.4	15.3
Germany.....	11.8	11.8	11.7	Jamaica.....	17.7	17.4	15.3
Argentina.....	13.1	11.9	11.9	Japan.....	16.8	17.5	17.0
Sweden.....	11.7	12.0	12.0	Costa Rica.....	21.8	20.0	18.2
Finland.....	12.0	13.1	12.3	Palestine.....	18.6	16.1	18.9
England and Wales.....	11.7	12.1	12.4	Roumania.....	21.1	19.8	19.3
British Isles.....	12.1	12.5	12.8	Ceylon.....	36.6	21.8	21.7
Belgium.....	12.9	12.9	13.2	British India.....	23.6	22.6	22.4
Lithuania.....	14.0	13.4	13.2	Straits Settlements.....	25.1	24.9	22.5
Czechoslovakia.....	13.5	13.3	13.3	Chile.....	25.0	25.3	24.0
Austria.....	13.6	13.2	13.4	Egypt.....	25.1	27.3	27.2
Bulgaria.....	14.5	14.1	13.5				

TABLE 37—DEATHS AND CRUDE DEATH RATES PER 1,000 POPULATION IN CANADA, BY PROVINCES, 1926-40.

Year	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
TOTAL DEATHS										
1926.....	107,454	898	6,366	5,002	37,251	35,909	5,335	6,060	5,159	5,474
1927.....	105,292	913	6,378	4,902	36,175	34,775	5,309	6,031	5,059	5,750
1928.....	109,057	952	6,202	4,972	36,632	37,128	5,396	6,166	5,699	5,910
1929.....	113,515	1,122	6,660	5,230	37,221	38,123	5,808	6,715	6,239	6,397
1930.....	109,306	961	6,206	4,991	35,945	37,313	5,685	6,309	5,496	6,400
1931.....	104,517	912	5,968	4,644	34,487	35,705	5,319	6,066	5,302	6,114
1932.....	104,377	1,051	6,159	4,554	33,088	36,469	5,341	6,044	5,521	6,150
1933.....	101,968	1,032	6,045	4,908	31,636	35,301	5,455	6,024	5,346	6,221
1934.....	101,582	1,033	6,028	4,665	31,929	35,119	5,169	5,924	5,337	6,378
1935.....	105,567	975	6,164	4,779	32,839	36,317	5,781	6,126	5,729	6,857
1936.....	107,050	1,024	5,897	4,803	31,853	37,571	6,219	6,314	6,147	7,222
1937.....	113,824	1,146	6,083	5,433	35,456	38,475	6,070	6,927	6,261	7,973
1938.....	106,817	1,030	6,087	4,898	32,609	36,890	5,893	6,079	5,871	7,460
1939.....	108,951	1,133	6,324	5,082	33,388	37,530	6,157	6,031	5,789	7,517
1940.....	110,927	1,067	6,239	4,985	32,799	38,503	6,339	6,477	6,203	8,315
RATE PER 1,000 POPULATION										
1926.....	11.4	10.3	12.4	12.6	14.3	11.3	8.3	7.4	8.5	9.0
1927.....	10.9	10.5	12.4	12.3	13.6	10.8	8.2	7.2	8.0	9.2
1928.....	11.1	10.8	12.0	12.4	13.5	11.3	8.1	7.2	8.7	9.2
1929.....	11.3	12.8	12.9	12.9	13.4	11.4	8.6	7.6	9.1	9.7
1930.....	10.7	10.9	12.1	12.3	12.7	11.0	8.3	7.0	7.8	9.5
1931.....	10.1	10.4	11.6	11.4	12.0	10.4	7.6	6.6	7.2	8.8
1932.....	9.9	11.8	11.9	11.0	11.4	10.5	7.5	6.5	7.5	8.7
1933.....	9.6	11.6	11.6	11.7	10.7	9.9	7.7	6.5	7.1	8.7
1934.....	9.4	11.6	11.5	11.0	10.6	9.7	7.3	6.4	7.1	8.8
1935.....	9.7	11.0	11.7	11.1	10.7	9.9	8.1	6.6	7.5	9.3
1936.....	9.7	11.1	11.0	11.0	10.3	10.2	8.7	6.8	8.0	9.6
1937.....	10.2	12.3	11.2	12.3	11.3	10.4	8.5	7.4	8.0	10.6
1938.....	9.5	11.0	11.1	11.0	10.3	9.9	8.2	6.5	7.5	9.8
1939.....	9.6	11.9	11.4	11.3	10.4	10.0	8.5	6.4	7.3	9.7
1940.....	9.8	11.4	11.1	11.0	10.1	10.2	8.7	7.0	7.9	10.5

TABLE 38—DEATHS IN CANADA BY SEX AND AGE GROUPS, 1926-40.
 (Males)

Under 1 year of age										1940			
	year	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
13,537	12,548	12,026	12,336	11,667	9,867	9,340	9,124	9,069	8,281	9,508	8,311	8,039	7,844
2,001	1,863	1,600	1,930	1,569	1,448	1,185	1,143	1,162	1,058	1,479	903	889	855
846	775	779	853	781	633	618	522	573	533	527	645	506	398
559	572	556	582	544	471	373	383	387	408	352	462	338	432
410	443	422	498	424	312	330	271	312	296	268	334	282	308
1,378	1,476	1,424	1,535	1,483	1,239	1,084	924	969	1,011	1,021	1,194	985	226
1,015	1,119	1,079	1,049	926	820	835	755	876	796	874	915	834	834
1,311	1,306	1,422	1,556	1,436	1,309	1,230	1,127	953	1,127	1,108	1,173	735	681
1,338	1,442	1,551	1,604	1,663	1,500	1,440	1,367	1,215	1,289	1,347	1,127	1,139	1,139
1,221	1,398	1,292	1,366	1,517	1,486	1,386	1,293	1,214	1,202	1,266	1,285	1,217	1,185
1,248	1,248	1,292	1,374	1,349	1,299	1,263	1,180	1,252	1,283	1,257	1,261	1,232	1,157
1,638	1,582	1,667	1,703	1,637	1,509	1,569	1,374	1,341	1,430	1,425	1,546	1,380	1,192
1,871	1,795	2,006	2,046	1,970	1,885	1,820	1,735	1,680	1,775	1,748	1,817	1,402	1,406
2,061	2,111	2,352	2,457	2,410	2,310	2,216	2,294	2,316	2,327	2,350	2,513	2,240	1,695
2,249	2,379	2,572	2,814	2,797	2,851	2,868	2,952	3,052	3,041	3,104	3,229	3,241	2,295
2,647	2,825	2,997	2,978	3,038	3,062	3,196	3,165	3,451	3,366	3,761	3,971	3,271	3,340
3,314	3,372	3,614	3,698	3,546	3,577	3,720	3,808	4,082	4,182	4,377	4,760	4,123	4,409
3,977	4,057	4,404	4,609	4,372	4,241	4,475	4,536	4,623	4,747	4,997	4,859	4,826	5,197
4,427	4,339	4,699	4,903	4,941	4,853	5,284	5,199	5,286	5,539	5,270	5,236	5,600	5,941
4,235	4,089	4,550	4,547	4,482	4,359	4,885	4,946	5,099	5,368	5,697	5,733	5,925	6,417
4,821	4,577	4,962	5,421	5,062	4,993	5,692	5,712	5,598	6,027	6,367	5,892	5,766	6,034
787	876	821	832	739	855	803	823	875	892	904	6,747	6,595	7,077
88	123	101	89	77	71	63	59	40	43	37	44	44	44
56,979	56,265	58,480	60,920	59,109	56,529	56,153	54,725	55,224	57,206	57,728	62,109	58,817	59,907

TABLE 39—DEATHS IN CANADA BY SEX AND AGE GROUPS, 1926-40.—Continued.
(Females)

																1940
																1939
																1938
																1937
																1936
																1935
																1934
																1933
																1932
																1931
																1930
																1929
																1928
																1927
Under 1 year of age																1940
1 year.....	9,462	9,169	9,338	9,458	8,693	8,693	7,396	6,944	6,746	6,293	7,185	6,206	5,900	5,939	5,939	
2 years.....	1,538	1,431	1,563	1,397	1,200	1,016	940	997	1,038	1,185	1,185	791	724	723	723	
3 years.....	790	742	661	781	630	532	485	440	421	437	480	411	540	340	333	
4 years.....	516	529	489	533	352	383	358	307	322	319	289	375	265	273	246	
5-9 years.....	416	398	352	473	1,223	1,370	1,132	963	843	242	257	267	292	244	202	
10-14 years.....	1,126	1,290	1,018	957	975	862	806	743	734	831	930	968	836	717	646	
15-19 years.....	902	1,018	1,286	1,365	1,299	1,347	1,397	1,101	667	640	724	675	751	657	570	
20-24 years.....	1,286	1,360	1,600	1,644	1,683	1,549	1,453	1,397	1,334	970	949	1,019	1,030	606	570	
25-29 years.....	1,461	1,493	1,533	1,612	1,526	1,414	1,389	1,375	1,299	1,335	1,427	1,364	1,187	912	813	
30-34 years.....	1,516	1,443	1,540	1,539	1,393	1,432	1,377	1,380	1,284	1,386	1,352	1,215	1,063	1,050	1,050	
35-39 years.....	1,516	1,684	1,716	1,731	1,731	1,585	1,574	1,555	1,296	1,269	1,384	1,359	1,199	1,191	1,233	
40-44 years.....	1,673	1,634	1,744	1,744	1,810	1,754	1,493	1,473	1,376	1,506	1,496	1,446	1,317	1,134	1,134	
45-49 years.....	1,812	1,803	1,847	1,860	1,840	1,738	1,738	1,644	1,573	1,488	1,650	1,582	1,641	1,492	1,299	
50-54 years.....	1,838	1,864	2,019	2,079	2,012	1,993	2,137	1,881	1,852	1,797	1,813	1,806	1,880	1,384	1,380	
55-59 years.....	2,093	2,115	2,303	2,274	2,012	2,012	2,012	1,993	2,137	2,124	2,124	2,124	2,124	1,716	1,705	
60-64 years.....	2,680	2,684	2,802	2,918	2,735	2,834	2,834	2,833	2,833	2,426	2,426	2,426	2,426	2,351	2,305	
65-69 years.....	3,371	3,293	3,357	3,688	3,533	3,486	3,486	3,486	3,486	2,913	2,913	2,913	2,913	2,637	2,276	
70-74 years.....	3,664	3,486	3,985	4,255	4,034	3,955	3,955	3,955	3,955	3,713	3,713	3,713	3,713	3,139	2,774	
75-79 years.....	3,791	3,646	3,919	4,148	3,875	4,028	4,028	4,028	4,028	4,046	4,385	4,385	3,898	3,898	3,371	
80-89 years.....	5,177	4,891	5,392	5,518	5,279	5,189	5,189	5,189	4,457	4,344	4,559	4,559	3,868	4,095	4,182	
90 years and over.....	1,118	1,028	1,084	1,084	1,091	1,091	1,091	1,091	5,904	5,766	4,755	4,755	4,918	4,918	5,067	
Age not stated.....	43	21	24	13	8	10	10	10	1,022	1,172	1,205	1,205	6,186	6,844	5,551	
Total all ages.....	50,475	49,027	50,577	52,595	50,197	47,988	48,224	47,243	46,358	48,361	49,322	51,715	48,000	49,044	49,528	

TABLE 40 — QUARTILE AGES OF DECEDENTS (MALES, FEMALES AND BOTH SEXES) IN CANADA, 1926-40.

	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
BOTH SEXES															
First Quartile.....	1.83	2.58	4.67	4.45	4.25	5.73	16.79	19.53	20.06	21.19	24.54	20.89	26.22	30.34	32.84
Second Quartile.....	45.50	45.94	49.01	48.99	49.23	51.25	55.59	56.93	57.52	58.09	59.28	58.37	60.28	61.96	62.57
Third Quartile.....	70.70	70.32	71.32	71.25	71.25	71.83	73.40	73.71	73.79	74.14	74.50	74.29	74.82	75.54	75.73
MALES															
First Quartile.....	1.34	1.80	3.34	3.15	3.23	3.82	13.42	16.65	17.93	19.27	23.75	19.36	25.53	29.44	32.87
Second Quartile.....	45.16	46.04	48.92	48.86	49.13	50.76	55.10	56.36	57.09	57.53	58.94	57.91	59.59	61.05	61.74
Third Quartile.....	70.05	69.69	70.52	70.47	70.53	70.87	72.60	72.98	73.02	73.27	73.72	73.31	73.89	74.48	74.59
FEMALES															
First Quartile.....	2.85	3.96	6.82	6.30	5.79	8.65	19.43	22.13	21.96	23.11	25.32	22.27	26.88	31.28	32.80
Second Quartile.....	45.89	45.83	49.12	49.17	49.37	52.14	56.23	57.66	58.09	58.87	59.78	59.00	61.27	63.13	63.75
Third Quartile.....	71.51	71.07	72.29	72.22	72.22	72.90	74.37	74.58	74.70	75.11	75.39	75.40	75.93	76.73	76.98

TABLE 41 — NUMBER OF DEATHS OF MALES AGED 20-64 YEARS IN CERTAIN OCCUPATIONS, CLASSIFIED ACCORDING TO AGE GROUPS, 1940.

Occupation	Deaths, all causes.					
	20-24	25-34	35-44	45-54	55-64	Total 20-64
1. All males aged 20-64 years.....	1,185	2,349	3,101	5,635	9,606	21,876
Selected Occupations						
2. Farmers.....	213	410	481	1,090	2,178	4,372
3. Fishermen.....	28	31	35	43	89	226
4. Lumbermen.....	40	81	79	74	105	379
5. Workers in coal mining.....	5	24	34	55	86	204
6. Workers in other mining, milling, quarrying, salt, oil and gas wells.....	22	75	73	75	96	341
7. Bakers, confectionery and biscuit makers.....	4	12	15	25	53	109
8. Operatives in tanning and the manufacture of leather.....	6	15	23	45	73	162
9. Textile workers including workers in textile goods and wearing apparel.....	9	20	25	50	97	201
10. Operatives in manufacture of wood products.....	4	16	24	39	87	170
11. Compositors and printers.....	5	5	7	26	45	88
12. Other operatives in printing, publishing and bookbinding.....	—	4	6	16	12	38
13. Blacksmiths, hammermen and forgemen.....	—	5	9	30	68	112
14. Machinists and tool makers.....	10	14	39	70	138	271
15. Motor and air mechanics and mechanics N.E.S.....	17	44	73	58	66	258
16. Other operatives in the manufacture of metal products.....	9	30	43	114	189	385
17. Operatives in the manufacture of non-metallic mineral products.....	2	5	6	18	31	62
18. Stationary engineers and firemen.....	2	9	16	72	108	207
19. Brick and stone masons.....	1	5	5	30	67	108
20. Carpenters.....	7	36	58	139	351	591
21. Electricians and wiremen.....	5	17	26	49	37	134
22. Painters, decorators and glaziers.....	4	30	37	82	146	299
23. Plumbers, gas and steamfitters.....	1	9	15	36	47	108
24. Conductors, brakemen, expressmen and baggagemen, steam railways.....	—	4	14	69	81	168
25. Locomotive engineers and firemen.....	—	4	15	35	77	131
26. Chauffeurs, drivers, deliverymen, etc.....	40	114	103	124	161	542
27. Commercial travellers, sales agents, canvassers and demonstrators.....	3	21	37	63	120	244
28. Other salesmen.....	37	77	94	158	173	539
29. Police.....	1	10	20	31	43	105
30. Barbers, hairdressers and manicurists.....	1	12	33	53	84	183
31. Other workers in personal service, including cooks.....	15	41	92	203	278	629
32. Professional workers.....	25	65	110	217	405	822
33. Clergymen.....	1	7	9	25	68	110
34. Lawyers, notaries, justices and magistrates.....	—	3	16	24	38	81
35. Physicians and surgeons.....	—	2	14	31	47	94
36. Professional engineers.....	3	12	11	53	92	171
37. Professors, lecturers, college principals and school teachers.....	8	14	22	18	34	96
38. Other professional workers.....	13	27	38	66	126	270
39. Owners and managers.....	14	70	210	473	900	1,667
40. In manufacturing.....	1	5	26	63	110	205
41. In transportation.....	1	4	15	26	44	90
42. All trade, wholesale and retail.....	7	44	124	250	506	931
43. In hotels, restaurants, lodging and boarding houses.....	2	11	22	54	81	170
44. In other industries.....	3	6	23	80	159	271
45. Office workers (including public officials).....	44	99	135	245	390	913
46. Labourers (other than agricultural).....	252	467	553	832	1,276	3,380

TABLE 42 — DEATHS IN THE PRINCIPAL CITIES AND TOWNS OF CANADA,
BY FIVE YEAR AVERAGES, 1926-40.

City or Town	Population		Total deaths			City or Town	Population		Total deaths			
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40		Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40	
	40,000 POPULATION AND OVER										10,000 TO 20,000 POPULATION — Continued	
Montreal, Que.	818,577	903,007	11,260	9,808	9,715	Woodstock, Ont.	11,395	12,461	173	177	217	
Toronto, Ont.	631,207	667,457	6,735	6,546	7,110	St-Jean, Que.	11,256	13,646	120	125	179	
Vancouver, B.C.	246,593	275,353	2,175	2,303	2,842	Cornwall, Ont.	11,126	14,117	238	234	247	
Winnipeg, Man.	218,725	221,960	1,757	1,712	1,947	Joliette, Que.	10,765	12,749	173	172	177	
Hamilton, Ont.	155,547	166,337	1,473	1,491	1,621	Welland, Ont.	10,709	12,500	162	138	160	
Quebec, Que.	130,594	150,757	2,269	1,991	2,057	Thetford Mines, Que.	10,701	12,716	157	139	172	
Ottawa, Ont.	126,872	154,951	1,664	1,715	1,825	Granby, Que.	10,587	14,197	115	115	111	
Windsor, Ont.	98,179	105,311	965	838	903	Sorel, Que.	10,320	12,251	167	141	126	
Calgary, Alta.	83,761	88,904	756	730	853	Medicine Hat, Alta.	10,300	10,571	140	129	148	
Edmonton, Alta.	79,197	93,817	862	884	1,091	10,000 TO 20,000 POPULATION — Continued						
London, Ont.	71,148	78,264	1,089	1,020	1,123	Prince Albert, Sask.	9,905	12,508	153	175	195	
Verdun, Que.	60,745	67,349	398	460	521	Brockville, Ont.	9,736	11,342	172	167	199	
Halifax, N.S.	59,275	70,488	884	898	895	Jonquière, Que.	9,448	13,769	134	94	97	
Regina, Sask.	53,209	58,245	481	468	564	Pembroke, Ont.	9,368	11,159	169	151	178	
Saint John, N.B.	47,514	51,741	712	667	681	Dartmouth, N.S.	9,100	10,847	93	66	65	
Saskatoon, Sask.	43,291	43,027	485	450	506	St-Jérôme, Que.	8,967	11,329	127	87	88	
20,000 TO 40,000 POPULATION												
Victoria, B.C.	39,082	44,068	552	561	730	New Glasgow, N.S.	8,858	9,210	127	127	143	
Trois-Rivières, Que.	35,450	42,007	556	610	606	Fredericton, N.B.	8,830	10,062	141	153	158	
Kitchener, Ont.	30,793	35,657	303	347	386	Cap-de-la-Madeleine, Que.	8,748	11,961	127	84	71	
Brantford, Ont.	30,107	31,948	382	362	405	North Vancouver, B.C.	8,510	8,914	76	95	117	
Hull, Que.	29,433	32,947	354	360	355	Rivière-du-Loup, Que.	8,499	8,713	128	127	165	
Sherbrooke, Que.	28,933	35,965	450	443	477	Orillia, Ont.	8,183	9,798	147	135	169	
Outremont, Que.	28,641	30,751	105	161	170	Waterloo, Ont.	8,095	9,025	53	47	55	
Fort William, Ont.	26,277	30,585	215	203	226	Truro, N.S.	7,901	10,272	108	111	113	
St.Catharines, Ont.	24,753	30,275	317	283	323	La Tuque, Que.	7,871	7,919	84	75	59	
Westmount, Que.	24,235	26,047	143	249	264	Barrie, Ont.	7,776	9,725	120	126	119	
Kingston, Ont.	23,439	30,126	476	476	515	Sydney Mines, N.S.	7,769	8,198	110	96	98	
Oshawa, Ont.	23,439	26,813	216	186	219	New Waterford, N.S.	7,745	9,302	89	82	81	
Sydney, N.S.	23,089	28,305	241	213	185	Trail, B.C.	7,573	9,392	53	46	57	
Sault Ste Marie, Ont.	23,082	25,794	218	214	247	Lindsay, Ont.	7,505	8,403	120	128	152	
Peterborough, Ont.	22,327	25,350	308	324	367	Amherst, N.S.	7,450	8,620	105	105	123	
Moose Jaw, Sask.	21,299	20,753	226	196	231	New Toronto, Ont.	7,146	9,504	33	139	139	
Guelph, Ont.	21,075	23,273	235	234	214	Smiths Falls, Ont.	7,108	7,159	104	99	108	
Glace Bay, N.S.	20,706	25,147	294	258	258	Lauzon, Que.	7,084	7,877	81	66	58	
Moncton, N.B.	20,689	22,763	252	245	272	Yarmouth, N.S.	7,055	7,790	144	118	131	
10,000 TO 20,000 POPULATION												
Port Arthur, Ont.	19,818	24,426	224	197	242	Midland, Ont.	6,920	6,800	96	98	94	
Niagara Falls, Ont.	19,046	20,589	215	200	216	Mimico, Ont.	6,800	8,070	63	39	34	
Lachine, Que.	18,630	20,051	214	186	205	Kenora, Ont.	6,766	7,745	72	69	96	
Sudbury, Ont.	18,518	32,203	215	235	302	Nanaimo, B.C.	6,745	6,635	88	89	124	
Sarnia, Ont.	18,191	18,734	222	224	239	Eastview, Ont.	6,686	7,966	59	47	38	
Stratford, Ont.	17,742	17,038	200	199	226	Drummondville, Que.	6,609	10,555	107	116	88	
New Westminster, B.C.	17,524	21,967	273	287	344	Portage la Prairie, Man.	6,597	7,187	137	111	107	
Brandon, Man.	17,082	17,383	244	225	264	Campbellton, N.B.	6,505	6,748	127	122	167	
St.Boniface, Man.	16,305	18,157	482	417	536	Port Colborne, Ont.	6,503	6,993	49	36	33	
North Bay, Ont.	15,528	15,599	149	155	168	Grand Mère, Que.	6,461	8,608	71	66	71	
St. Thomas, Ont.	15,430	17,132	226	227	254	Edmundston, N.B.	6,430	7,096	65	56	64	
Shawinigan Falls, Que.	15,345	20,325	199	157	160	Springhill, N.S.	6,355	7,170	75	78	67	
Chatham, Ont.	14,569	17,369	300	303	330	Prince Rupert, B.C.	6,350	6,714	64	49	67	
Timmins, Ont.	14,200	28,790	146	171	196	Magog, Que.	6,302	9,034	80	74	79	
Galt, Ont.	14,006	15,346	172	187	183	Preston, Ont.	6,280	6,704	45	46	39	
Bellefonte, Ont.	13,790	15,710	230	227	253	Trenton, Ont.	6,276	8,323	71	71	56	
Lethbridge, Alta.	13,489	14,612	185	193	201	Victoriaville, Que.	6,213	8,516	71	78	77	
St-Hyacinthe, Que.	13,448	17,798	288	293	318	Kamloops, B.C.	6,167	5,959	118	121	134	
Owen Sound, Ont.	12,839	14,002	163	181	197	North Sydney, N.S.	6,139	6,836	88	84	92	
Charlottetown, P.E.I.	12,361	14,821	264	262	299	St-Lambert, Que.	6,075	6,417	29	31	31	
Chicoutimi, Que.	11,877	16,040	228	224	268	Nelson, B.C.	5,992	5,912	89	86	92	
Lévis, Que.	11,724	11,991	223	219	211	North Battleford, Sask.	5,986	4,745	77	71	73	
Valleyfield, Que.	11,411	17,052	180	154	164	Fort Erie, Ont.	5,904	6,595	(2)	57	68	
						Cobourg, Ont.	5,834	5,973	116	101	111	

(*) Figures not available.

NOTE: The populations are based on the distribution as enumerated in the Census of 1931.

TABLE 42 — DEATHS IN THE PRINCIPAL CITIES AND TOWNS OF CANADA,
BY FIVE YEAR AVERAGES, 1926-40 — Continued.

City or Town	Population		Total deaths			City or Town	Population		Total deaths		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40		Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40
	5,000 TO 10,000 POPULATION — Continued						1,000 TO 5,000 POPULATION — Continued				
Collingwood, Ont.	5,809	6,270	95	97	108	East Angus, Que.	3,566	3,501	40	27	26
Transcona, Man.	5,747	5,495	23	13	13	Parry Sound, Ont.	3,512	5,765	55	67	76
Rimouski, Que.	5,589	7,009	108	112	142	Napanee, Ont.	3,497	3,405	41	37	40
Brampton, Ont.	5,532	6,020	71	66	84	St. Stephen, N.B.	3,437	3,306	92	87	95
Fort Francis, Ont.	5,470	5,897	63	45	44	Dunnville, Ont.	3,405	4,028	56	66	60
Longueuil, Que.	5,407	7,087	79	62	55	Tillsonburg, Ont.	3,385	4,002	58	67	89
St-Laurent, Que.	5,348	6,242	65	51	56	Newcastle, N.B.	3,383	3,781	54	44	61
Renfrew, Ont.	5,296	5,511	72	72	79	Bathurst, N.B.	3,300	3,554	41	49	63
Swift Current, Sask.	5,296	5,594	66	59	63	Ste-Thérèse, Que.	3,292	4,659	71	43	41
Ingersoll, Ont.	5,233	5,782	73	77	86	Bridgewater, N.S.	3,262	3,445	49	60	87
Simcoe, Ont.	5,226	6,037	82	106	124	Woodstock, N.B.	3,259	3,593	80	68	83
Hawkesbury, Ont.	5,177	6,263	84	70	74	Beauport, Que.	3,242	3,725	(1)	45	27
Thorold, Ont.	5,092	5,305	42	38	46	Rouyn, Que.	3,225	8,808	(1)	34	39
Whitby, Ont.	5,046	5,904	155	146	161	Montreal W., Que.	3,190	3,474	8	12	17
Yorkton, Sask.	5,027	5,577	67	77	94	Copper Cliff, Ont.	3,173	3,732	29	24	25
Dundas, Ont.	5,026	5,276	63	67	58	Picton, N.S.	3,152	3,069	43	44	44
Stellarton, N.S.	5,002	5,351	60	40	34	Hanover, Ont.	3,077	3,290	38	37	40
Weyburn, Sask.	5,002	6,179	120	127	131	Cranbrook, B.C.	3,067	2,568	58	26	11
1,000 TO 5,000 POPULATION											
Leamington, Ont.	4,902	5,858	61	64	65	Burlington, Ont.	3,046	3,815	25	23	26
Port Hope, Ont.	4,723	5,055	73	76	72	Kentville, N.S.	3,033	3,928	49	55	74
Weston, Ont.	4,723	5,740	171	37	33	Windsor, N.S.	3,032	3,436	49	58	78
Kelowna, B.C.	4,655	5,118	54	48	60	Drumheller, Alta.	2,987	2,748	59	51	65
Buckingham, Que.	4,638	4,516	74	60	56	Prescott, Ont.	2,984	3,223	39	35	31
Montreal N., Que.	4,519	6,152	36	35	32	Pointe-aux-Trembles, Que.	2,970	4,314	34	44	126
Kérogami, Que.	4,500	6,579	66	38	40	Strathroy, Ont.	2,964	3,016	65	74	84
Goderich, Ont.	4,491	4,557	58	70	82	Ste-Agathe-des-Monts, Que.	2,949	3,308	73	53	40
Selkirk, Man.	4,486	4,915	90	98	133	Estevan, Sask.	2,936	2,774	49	31	42
Riverside, Ont.	4,432	4,878	19	22	Inverness, N.S.	2,900	2,975	46	45	57	
Wallaceburg, Ont.	4,326	4,986	53	42	New Liskeard, Ont.	2,880	3,019	20	20	17	
Sturgeon Falls, Ont.	4,234	4,576	50	55	Nicole, Que.	2,868	3,751	68	68	60	
Farnham, Que.	4,205	4,055	63	54	Rossland, B.C.	2,848	3,657	20	19	24	
St-Pierre, Que.	4,185	4,061	33	21	Dominion, N.S.	2,846	3,279	20	20	21	
Paris, Ont.	4,137	4,637	56	60	Aylmer, Que.	2,835	3,115	26	28	22	
Carleton Place, Ont.	4,105	4,305	46	44	Huntsville, Ont.	2,817	2,800	31	26	25	
Perth, Ont.	4,099	4,458	60	68	Haileybury, Ont.	2,813	2,268	28	55	66	
Bowmanville, Ont.	4,080	4,113	51	54	Blind River, Ont.	2,805	2,619	40	34	28	
Pointe-Claire, Que.	4,058	4,536	30	29	Iberville, Que.	2,778	3,454	44	28	29	
Coaticook, Que.	4,044	4,414	54	44	Laprairie, Que.	2,774	2,936	59	40	31	
Penetanguishene, Ont.	4,035	4,521	60	61	Roberval, Que.	2,770	3,220	45	41	65	
The Pas, Man.	4,030	3,181	51	45	Amherstburg, Ont.	2,759	2,853	36	25	25	
Arnprior, Ont.	4,023	3,895	44	35	Hespeler, Ont.	2,752	3,058	24	21	25	
Chatham, N.B.	4,017	4,082	90	73	Campbellford, Ont.	2,744	3,018	36	32	38	
Dalhousie, N.B.	3,974	4,508	21	24	Revelstoke, B.C.	2,736	2,106	30	24	26	
Dauphin, Man.	3,971	4,662	60	79	Fernie, B.C.	2,732	2,545	31	29	29	
St-Joseph-D'Alma, Que.	3,970	6,449	(1)	52	Lunenburg, N.S.	2,727	2,856	34	33	35	
Cochrane, Ont.	3,963	2,844	71	60	Windзор, Que.	2,720	3,368	39	35	27	
Westville, N.S.	3,946	4,115	43	36	Laval-des-Rapides, Que.	2,716	3,242	21	18	21	
Vernon, B.C.	3,937	5,209	42	50	Listowel, Ont.	2,676	3,013	43	47	51	
Montmagny, Que.	3,927	4,585	89	89	Liverpool, N.S.	2,669	3,170	36	25	31	
Mégantic, Que.	3,911	4,560	49	38	Donnacona, Que.	2,631	3,064	32	21	15	
Lachute, Que.	3,906	5,310	56	40	Meaford, Ont.	2,624	2,662	35	30	41	
Melville, Sask.	3,891	4,011	36	33	Orangeville, Ont.	2,614	2,718	58	64	65	
Cobalt, Ont.	3,885	2,376	43	26	Trenton, N.S.	2,613	2,699	25	23	20	
Oakville, Ont.	3,857	4,115	31	27	Richmond, Que.	2,596	3,082	25	25	23	
Kapusasing, Ont.	3,819	3,431	(1)	29	Petrolia, Ont.	2,596	2,801	64	59	63	
St. Mary's, Ont.	3,802	3,635	47	46	Aurora, Ont.	2,587	2,726	30	27	26	
Summerside, P.E.I.	3,759	5,034	60	73	Merriiton, Ont.	2,523	2,993	20	14	16	
Newmarket, Ont.	3,748	4,026	65	75	Prince George, B.C.	2,479	2,027	30	34	42	
Beauharnois, Que.	3,729	3,550	46	35	Bagotville, Que.	2,468	3,248	49	30	31	
Gananoque, Ont.	3,592	4,044	40	40	Kincardine, Ont.	2,465	2,507	43	26	23	
Picton, Ont.	3,580	3,901	68	69	Chilliwack, B.C.	2,461	3,675	52	49	33	
					Bracebridge, Ont.	2,436	2,341	34	44	52	

(1) Population less than 1,000 in the Censuses of Canada for 1921 and 1931 and the Prairie Provinces for 1926 and 1936.

NOTE: The populations are based on the distribution as enumerated in the Census of 1931.

TABLE 42 — DEATHS IN THE PRINCIPAL CITIES AND TOWNS OF CANADA,
BY FIVE YEAR AVERAGES, 1926-40 — Continued.

City or Town	Population		Total deaths			City or Town	Population		Total deaths		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40		Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40
1,000 TO 5,000 POPULATION — Continued											
— Continued											
Berthier, Que.....	2,431	2,634	47	36	31	Coleman, Alta,.....	1,704	1,870	18	17	21
Walkerton, Ont.....	2,431	2,679	48	55	70	Chesley, Ont.....	1,699	1,701	23	21	19
Ste-Anne-de-Bellevue, Que.....	2,417	3,006	53	56	52	Seaforth, Ont.....	1,686	1,668	31	44	46
Almonte, Ont.....	2,415	2,543	26	26	34	Capreol, Ont.....	1,684	1,641	16	11	10
Biggar, Sask.....	2,369	1,930	26	19	19	Minnedosa, Man.....	1,680	1,636	25	21	25
Louiseville, Que.....	2,365	3,542	44	41	36	Courville, Que.....	1,678	2,011	17	14	13
La Salle, Que.....	2,362	4,651	(1)	23	19	Cardston, Alta.....	1,672	1,864	36	27	28
Port Alberni, B.C.....	2,356	4,584	26	35	51	Souris, Man.....	1,661	1,346	19	17	27
Red Deer, Alta.....	2,344	2,924	54	46	51	Ste-Rose, Que.....	1,661	2,292	29	20	22
Port Alfred, Que.....	2,342	3,243	33	20	23	Vegreville, Alta.....	1,659	1,696	46	41	47
Georgetown, Ont.....	2,288	2,562	17	18	18	Thessalon, Ont.....	1,632	1,316	21	24	24
Aylmer, Ont.....	2,283	2,478	34	35	33	Mattawa, Ont.....	1,631	1,971	29	29	41
Camrose, Alta.....	2,258	2,598	48	37	44	Blairmore, Alta.....	1,629	1,731	11	8	11
Sussex, N.B.....	2,252	3,027	39	32	33	Huntingdon, Que.....	1,619	1,952	(1)	25	19
Noranda, Que.....	2,246	4,576	(1)	36	96	Greenfield Park, Que.....	1,610	1,819	7	6	6
Montreal E., Que.....	2,242	2,355	14	26	40	Arthabaska, Que.....	1,608	1,883	49	51	57
Sackville, N.B.....	2,234	2,489	20	18	17	Virden, Man.....	1,590	1,619	29	27	29
Grimsby, Ont.....	2,198	2,331	(1)	21	21	Mitchell, Ont.....	1,588	1,777	27	32	26
Waterloo, Que.....	2,192	3,173	33	29	L'Assomption, Que.....	1,576	1,829	46	29	30	
Kingsville, Ont.....	2,174	2,317	29	28	19	Canso, N.S.....	1,575	1,418	19	19	15
Mount-Royal, Que.....	2,174	4,888	(1)	3	11	Bedford, Que.....	1,570	1,697	24	19	19
Elmira, Ont.....	2,170	2,012	(1)	17	23	Grand Falls, N.B.....	1,556	1,806	20	18	19
Black Lake, Que.....	2,167	2,276	45	18	22	Rosetown, Sask.....	1,553	1,470	(1)	27	30
Amos, Que.....	2,153	2,862	(1)	44	59	Edson, Alta.....	1,547	1,499	14	22	24
Tecumseh, Ont.....	2,129	2,412	(1)	11	12	Palmerston, Ont.....	1,543	1,418	22	19	26
Wetaskiwin, Alta.....	2,125	2,318	46	44	Dresden, Ont.....	1,529	1,662	22	26	23	
Rockland, Ont.....	2,118	2,040	28	25	St-Michel-de-Laval, Que.....	1,528	2,956	(1)	12	13	
Sioux Lookout, Ont.....	2,088	1,756	27	18	Bromptonville, Que.....	1,527	1,672	27	16	13	
Kamsack, Sask.....	2,087	1,792	19	20	Marysville, N.B.....	1,512	1,651	15	13	14	
Dorval, Que.....	2,052	2,048	14	12	Hanna, Alta.....	1,490	1,622	39	36	30	
Dolbeau, Que.....	2,032	2,847	(1)	14	20	Southampton, Ont.....	1,489	1,600	17	17	14
Alexandria, Ont.....	2,006	2,175	27	23	Forest, Ont.....	1,480	1,570	26	21	22	
Tilbury, Ont.....	1,992	2,155	17	15	Deseronto, Ont.....	1,476	1,261	25	20	17	
Marieville, Que.....	1,986	2,394	36	38	Iroquois Falls, Ont.....	1,476	1,302	15	15	17	
Devon, N.B.....	1,977	2,337	22	23	Shelburne, N.S.....	1,474	1,605	19	16	15	
St-Tite, Que.....	1,969	2,385	43	35	Grande Prairie, Alta.....	1,464	1,724	(1)	39	57	
Wingham, Ont.....	1,959	2,030	36	33	High River, Alta.....	1,459	1,430	30	31	35	
Terrebonne, Que.....	1,955	2,209	28	29	Assiniboia, Sask.....	1,454	1,849	22	22	26	
Essex, Ont.....	1,954	1,935	23	17	Macleod, Alta.....	1,447	1,912	26	26	25	
Ridgeway, Ont.....	1,952	1,944	33	32	Ladysmith, B.C.....	1,443	1,706	24	20	21	
Wiarton, Ont.....	1,949	1,749	23	24	Indian Head, Sask.....	1,438	1,349	26	30	35	
Lennoxville, Que.....	1,927	2,150	22	20	Beloit, Que.....	1,434	2,008	25	20	19	
Parrsboro, N.S.....	1,919	1,971	27	27	Keewatin, Ont.....	1,422	1,481	7	7	7	
Neepawa, Man.....	1,910	2,292	35	30	Carman, Man.....	1,418	1,455	39	34	42	
Humboldt, Sask.....	1,899	1,767	32	5	Morden, Man.....	1,416	1,427	35	30	33	
Shediac, N.B.....	1,883	2,147	35	22	Digby, N.S.....	1,412	1,657	27	22	45	
Gravenhurst, Ont.....	1,864	2,122	28	36	Rosthern, Sask.....	1,412	1,149	18	24	23	
Témiscamingue, Que.....	1,855	2,168	(1)	13	Rainy River, Ont.....	1,402	1,205	15	15	16	
Raymond, Alta.....	1,849	2,089	12	9	Vankleek Hill, Ont.....	1,380	1,435	27	24	28	
Duncan, B.C.....	1,843	2,189	32	34	Alliston, Ont.....	1,355	1,733	27	38	45	
Milton, Ont.....	1,839	1,964	21	22	Dryden, Ont.....	1,326	1,641	19	22	39	
Trois-Pistoles, Que.....	1,837	2,176	39	24	Uxbridge, Ont.....	1,325	1,406	(1)	21	21	
Wolfville, N.S.....	1,818	1,944	49	35	Port Coquitlam, B.C.....	1,312	1,539	6	4	6	
Quebec West, Que.....	1,813	3,619	(1)	15	Watrous, Sask.....	1,303	1,138	18	15	14	
Melfort, Sask.....	1,809	2,005	44	39	Grand Forks, B.C.....	1,298	1,259	25	21	27	
Mount Forest, Ont.....	1,801	1,892	38	36	Harrison, Ont.....	1,296	1,305	17	14	15	
Arvida, Que.....	1,790	4,581	(1)	13	Merritt, B.C.....	1,296	940	22	21	17	
Clinton, Ont.....	1,789	1,896	42	39	Wedgeport, N.S.....	1,294	1,327	14	9	11	
Antigonish, N.S.....	1,764	2,157	87	93	Laurentides, Que.....	1,284	1,342	42	33	26	
Shaunavon, Sask.....	1,761	1,603	53	39	Taber, Alta.....	1,279	1,331	19	14	5	
Acton Vale, Que.....	1,753	2,366	33	27	Vermilion, Alta.....	1,270	1,408	24	23	24	
Durham, Ont.....	1,750	1,700	26	28	Port Moody, B.C.....	1,260	1,512	4	2	4	
Blenheim, Ont.....	1,737	1,952	22	22	Lacombe, Alta.....	1,259	1,603	37	31	28	
Milltown, N.B.....	1,735	1,876	26	21	Niagara, Ont.....	1,228	1,541	22	16	23	

(1) Population less than 1,000 in the Censuses of Canada for 1921 and 1931 and the Prairie Provinces for 1926 and 1936.

NOTE: The populations are based on the distribution as enumerated in the Census of 1931.

TABLE 42 — DEATHS IN THE PRINCIPAL CITIES AND TOWNS OF CANADA,
BY FIVE YEAR AVERAGES, 1926-40 — Concluded.

City or Town	Population		Total deaths			City or Town	Population		Total deaths		
	Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40		Census 1931	Census 1941	Average 1926-30	Average 1931-35	Average 1936-40
1,000 TO 5,000 POPULATION — Continued											
— Continued											
Magrath, Alta.....	1,224	1,207	9	9	5	Rigaud, Que.....	1,099	1,222	(o)	15	10
Wilkie, Sask.....	1,222	1,232	(o)	15	17	Battleford, Sask.....	1,096	1,317	11	7	6
Courtenay, B.C.....	1,219	1,737	(o)	5	7	St. George, N.B.....	1,087	1,169	11	11	11
Stettler, Alta.....	1,219	1,295	25	35	Tisdale, Sask.....	1,069	1,237	(o)	45	53	
Englehart, Ont.....	1,210	1,262	(o)	16	15	Châteauguay, Que.....	1,067	1,425	(o)	11	11
St. Andrews, N.B.....	1,207	1,167	15	18	Mahone Bay, N.S.....	1,065	1,025	12	14	12	
Redcliff, Alta.....	1,192	1,111	(o)	5	(o)	Souris, P.E.I.....	1,063	1,114	(o)	14	16
Scotstown, Que.....	1,189	1,273	(o)	12	10	Olds, Alta.....	1,056	1,337	(o)	21	18
Canora, Sask.....	1,179	1,200	28	24	Wynyard, Sask.....	1,042	1,080	(o)	8	8	
Tuxedo, Man.....	1,173	735	(o)	2	3	Kindersley, Sask.....	1,037	990	(o)	28	26
Montreal S., Que.....	1,164	1,441	7	9	Stonewall, Man.....	1,031	1,020	8	8	8	
Claresholm, Alta.....	1,156	1,265	(o)	20	Parkhill, Ont.....	1,030	947	19	16	12	
Dorion, Que.....	1,155	1,292	(o)	7	Innisfail, Alta.....	1,024	1,223	(o)	34	38	
Maple Creek, Sask.....	1,154	1,085	(o)	25	Pincher Creek, Alta.....	1,024	994	(o)	20	(o)	
Cache Bay, Ont.....	1,151	1,004	(o)	6	Stayner, Ont.....	1,019	1,085	(o)	14	13	
Sutherland, Sask.....	1,148	888	(o)	4	Port Hawkesbury, N.S.....	1,011	1,031	(o)	1	8	
Wainwright, Alta.....	1,147	980	(o)	22	Herbert, Sask.....	1,009	875	(o)	12	(o)	
Beauséjour, Man.....	1,139	1,161	(o)	8	Radville, Sask.....	1,005	813	(o)	6	(o)	
Gravelbourg, Sask.....	1,137	1,130	21	19	Killarney, Man.....	1,003	1,051	(o)	11	(o)	
Oxford, N.S.....	1,133	1,297	15	15	Fort Saskatchewan, Alta.....	1,001	903	(o)	11	(o)	
Bridgetown, N.S.....	1,126	1,020	15	17	Joggins, N.S.....	1,000	1,109	9	10	11	
Moosomin, Sask.....	1,119	1,096	19	25							
Beverley, Alta.....	1,111	981	(o)	2							
Little Current, Ont.....	1,101	1,088	(o)	8							
				12							

(o) Population less than 1,000 in the Censuses of Canada for 1921 and 1931 and the Prairie Provinces for 1926 and 1936.

NOTE: The populations are based on the distribution as enumerated in the Census of 1931.

TABLE 43—NUMBER OF DEATHS BY PRINCIPAL CAUSES OF DEATH IN CANADA, 1926-40.

Causes of Death	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
	NUMBER OF DEATHS														
Typhoid fever	465	1,112	467	467	451	421	339	291	293	273	256	330	207	180	224
Measles	892	616	337	619	521	167	330	170	188	490	376	837	250	197	168
Scarlet fever	363	411	346	440	397	253	197	157	226	242	244	269	202	167	125
Whooping cough	1,242	1,030	727	755	964	748	555	552	875	892	594	763	496	541	628
Diphtheria	913	1,012	916	980	737	646	398	329	232	264	258	369	434	336	213
Influenza	4,987	3,317	4,603	6,979	2,383	3,217	4,236	4,019	2,004	3,392	3,113	5,260	2,362	3,955	2,789
Poliomyelitis and polioencephalitis (acute)	93	193	182	152	215	223	164	73	84	64	97	200	83	56	48
Lethargic or epidemic encephalitis	99	120	120	118	88	77	76	58	47	54	52	50	45	47	63
Epidemic cerebrospinal meningitis	207	219	235	341	294	225	139	109	84	112	103	93	86	84	100
Tuberculosis, respiratory system	6,672	6,578	6,590	6,634	6,670	6,204	5,870	5,664	5,290	5,466	5,528	5,497	5,057	4,944	4,643
Tuberculosis, other organs	1,444	1,338	1,370	1,329	1,494	1,412	1,296	1,275	1,141	1,131	1,235	1,172	1,069	1,033	1,146
Cancer	7,614	7,919	8,514	8,732	9,273	9,578	10,024	10,653	10,581	11,156	11,694	11,963	12,038	12,399	13,322
Diabetes mellitus	1,046	1,083	1,097	1,208	1,146	1,244	1,343	1,287	1,321	1,459	1,442	1,555	1,545	1,712	1,787
Anæmia	1,040	738	732	693	740	716	728	736	612	650	646	623	650	699	616
Cerebral haemorrhage, embolism or thrombosis	4,251	4,143	4,271	4,064	3,823	3,322	3,197	3,198	3,124	2,550	2,248	2,005	2,016	2,060	2,296
Convulsions (children under 5 years of age)	571	553	440	429	380	368	304	263	261	234	200	195	161	171	192
Diseases of the heart (1)	11,415	11,775	12,630	13,205	13,067	13,734	15,328	15,485	16,332	16,069	16,424	16,840	17,373	18,562	20,278
Diseases of the arteries (1)	5,112	5,264	5,872	6,210	6,887	5,957	6,798	6,950	7,379	8,302	9,112	9,609	9,970	10,884	11,742
Bronchitis	587	505	522	471	443	469	437	367	380	363	342	328	325	311	331
Pneumonia	8,427	7,562	8,425	7,338	7,011	7,045	6,487	6,530	7,411	7,313	7,731	7,432	6,596	6,132	6,182
Diarrhoea and enteritis (1)	5,445	5,534	5,032	4,910	6,013	5,158	3,735	3,395	3,730	2,767	2,378	4,216	2,590	2,375	1,891
Appendicitis	1,321	1,382	1,405	1,451	1,485	1,394	1,454	1,455	1,578	1,491	1,428	1,410	1,297	1,208	1,103
Hernia, intestinal obstruction	889	910	856	962	963	987	947	1,029	1,074	1,121	1,050	1,074	1,074	1,045	1,016
Nephritis	5,138	5,235	5,715	5,687	5,570	5,168	5,635	5,166	5,643	6,176	6,402	6,530	6,492	6,538	6,835
Diseases of the prostate (1)	734	638	785	739	801	746	879	926	944	1,089	1,157	1,255	1,297	1,298	1,241
Puerperal causes	1,317	1,300	1,331	1,341	1,405	1,215	1,181	1,111	1,167	1,093	1,233	1,071	968	967	978
Congenital malformations	1,550	1,347	1,441	1,466	1,475	1,427	1,349	1,374	1,361	1,423	1,439	1,474	1,445	1,530	1,626
Diseases of early infancy (1)	9,902	9,246	9,215	9,144	8,974	9,019	7,932	7,337	6,936	6,880	6,605	6,644	6,598	6,174	6,318
Senility (old age)	2,764	2,470	2,408	2,505	2,334	2,225	2,192	2,037	1,882	1,932	1,691	1,741	1,764	1,614	1,555
Suicides	680	5,759	751	835	1,010	1,024	922	927	905	928	978	948	978	948	948
Violent deaths (suicides excepted)	5,189	5,509	6,174	6,316	6,468	6,168	5,621	5,294	5,542	6,353	6,380	6,257	6,195	6,470	6,470
Other specified causes	13,828	14,348	14,397	14,656	14,503	12,914	12,617	12,546	12,857	13,391	14,216	14,589	13,683	13,528	13,494
Total specified causes	106,197	104,221	107,906	112,339	108,315	103,417	103,370	100,975	100,975	104,805	106,339	113,051	106,205	108,355	110,293
III-defined causes	1,257	1,071	1,151	1,176	991	1,100	1,007	993	937	762	711	773	612	596	634
Totals	107,454	105,292	109,057	113,515	109,306	104,517	104,377	101,968	101,582	105,567	107,050	113,824	106,817	108,951	110,927

(1) There is some variation in the comparison factor between figures for the years 1926-30 and the years 1931-40 due to the disturbance in distribution caused by the revision of the International List of Causes of Death. Adjustments have been made to correct the demographic error as closely as possible.

TABLE 44—DEATH RATES PER 100,000 OF POPULATION, BY PRINCIPAL CAUSES OF DEATH IN CANADA, 1926-40.

Causes of Death	DEATH RATES PER 100,000 OF POPULATION										1940		
	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935			
Typhoid fever.....	4.9	11.6	4.8	4.7	4.4	4.1	3.2	2.7	2.7	2.5	3.0	1.8	1.6
Measles.....	9.5	6.4	3.4	6.2	5.1	1.6	3.1	1.6	1.7	4.5	3.4	7.5	2.2
Scarlet fever.....	3.8	4.3	3.5	4.4	3.9	2.4	1.9	1.5	2.1	2.2	2.2	1.7	1.5
Whooping cough.....	13.2	10.7	7.4	7.5	9.5	7.2	5.3	5.2	8.1	8.2	2.4	1.8	1.1
Diphtheria.....	9.7	10.5	9.3	9.8	7.2	6.2	3.8	2.2	2.1	2.4	5.4	6.9	4.4
Influenza.....	52.8	34.5	46.9	69.7	23.4	31.0	40.4	37.7	18.5	31.1	28.3	3.3	3.9
Poliomyelitis and poliomyelitis (acute).....	1.0	2.0	1.9	1.5	2.1	2.2	1.6	0.7	0.8	0.6	0.9	1.8	2.3
Lethargic or epidemic encephalitis.....	1.0	1.2	1.2	1.2	0.9	0.7	0.7	0.5	0.4	0.5	0.5	0.5	0.4
Epidemic cerebrospinal meningitis.....	2.2	2.3	2.4	3.4	2.9	2.2	1.3	1.0	0.8	1.0	0.9	0.8	0.7
Tuberculosis, respiratory system.....	70.7	68.3	67.1	66.2	59.4	59.9	53.1	48.9	50.1	50.2	49.5	45.2	43.7
Tuberculosis, other organs.....	15.3	13.9	13.8	13.3	14.7	13.6	12.4	12.0	10.6	10.4	11.2	10.6	9.1
Cancer.....	80.7	82.3	86.7	87.8	91.0	92.4	95.5	99.9	102.2	106.2	107.7	107.5	101.1
Diabetes mellitus.....	11.1	11.3	12.1	11.2	12.0	12.8	12.1	12.2	13.4	13.1	14.0	13.8	15.1
Anaemia.....	11.0	8.2	7.5	6.9	7.3	6.9	6.9	5.7	6.0	5.9	5.6	5.8	6.2
Cerebral haemorrhage; embolism or thrombosis.....	45.0	43.0	43.5	40.6	37.5	32.1	30.5	30.0	28.9	23.1	20.4	18.1	18.2
Convulsions (children under 5 years of age).....	6.0	5.7	4.5	4.3	3.7	3.6	2.9	2.5	2.4	2.1	1.8	1.4	1.7
Diseases of the heart (1).....	120.9	122.4	128.6	131.8	128.2	132.6	146.1	145.2	151.3	147.1	149.1	151.6	164.3
Diseases of the arteries (1).....	54.2	54.7	59.8	62.0	67.6	57.5	64.8	65.2	68.3	76.0	82.7	86.5	178.3
Bronchitis.....	6.2	5.2	5.3	4.7	4.3	4.5	4.2	3.4	3.5	3.3	3.1	3.0	103.3
Pneumonia.....	89.3	85.8	84.3	72.0	67.7	67.1	60.8	60.4	67.9	66.4	69.6	66.4	2.9
Diarrhoea and enteritis (1).....	57.7	57.5	51.2	49.0	59.0	49.8	35.6	31.8	34.5	25.3	21.6	38.0	53.9
Appendicitis.....	14.0	14.4	14.3	14.5	14.6	13.5	13.9	13.6	14.6	13.7	13.0	12.7	21.0
Hernia, intestinal obstruction.....	9.4	9.5	8.7	9.6	9.4	9.5	9.0	9.6	9.9	10.3	9.5	9.7	9.7
Nephritis.....	54.4	54.4	58.2	56.8	54.6	49.9	53.7	51.7	52.2	56.6	58.1	58.8	57.9
Diseases of the prostate (1).....	7.8	6.6	8.0	7.4	7.9	7.2	8.4	8.7	10.0	10.5	11.3	11.6	10.9
Puerperal causes.....	14.0	13.5	13.6	13.4	13.8	11.7	11.3	10.4	10.8	10.0	11.2	9.6	8.6
Congenital malformations.....	16.4	14.0	14.7	14.6	14.5	13.8	12.9	12.9	12.6	13.0	13.1	12.9	13.5
Diseases of early infancy (1).....	104.9	96.1	93.8	91.3	88.0	87.0	75.6	68.8	64.2	63.0	60.0	59.8	54.6
Senility (old age).....	29.3	25.7	24.5	25.0	22.9	21.5	20.9	19.1	17.4	15.7	15.8	14.3	13.7
Suicides.....	7.2	7.9	7.6	8.3	9.9	9.7	9.8	8.6	8.3	8.4	8.8	8.7	8.3
Violent deaths (suicides excepted).....	55.0	57.2	62.9	63.1	63.4	59.5	49.6	51.3	54.9	59.3	57.4	55.9	56.9
Other specified causes.....	146.5	149.1	146.6	146.3	142.3	124.6	120.3	117.6	118.9	122.6	129.1	131.4	118.7
Total specified causes.....	1,125.1	1,082.9	1,098.6	1,121.6	1,062.4	998.0	985.2	946.6	931.0	959.7	1,017.9	948.7	969.9
Ill-defined causes.....	13.3	11.1	11.7	11.7	9.7	10.6	9.6	9.3	8.7	7.0	5.5	5.3	5.6
Total crude death rate.....	1,138.4	1,094.1	1,110.3	1,133.3	1,072.2	1,008.6	994.8	955.9	939.7	966.6	971.9	1,024.9	964.1
													975.5

(1) There is some variation in the comparison factor between figures for the years 1926-30 and the years 1931-40 due to the disturbance in distribution caused by the revision of the International List of Causes of Death. Adjustments have been made to correct the demographic error as closely as possible.

TABLE 45.—TEN LEADING CAUSES OF DEATH IN CANADA, 1926-40.

Year	Diseases of the heart (n)		Cancer (all forms)		Diseases of the arteries (n)		Violent or Accidental deaths		Nephritis		Diseases peculiar to the first year of life (n)		Pneumonia (all forms)		Tuberculosis (all forms)		Influenza (all forms)		Intracranial lesions of vascular origin (n)	
	Rating	No. of deaths	Rating	No. of deaths	Rating	No. of deaths	Rating	No. of deaths	Rating	No. of deaths	Rating	No. of deaths	Rating	No. of deaths	Rating	No. of deaths	Rating	No. of deaths	Rating	
1926	1	11,415	5	7,614	8	5,112	6	5,869	7	5,138	2	5,902	3	8,427	4	8,116	9	4,987	10	4,251
1927	1	11,775	3	7,919	7	5,264	6	6,268	8	5,235	2	5,246	5	7,562	4	7,916	10	3,317	9	4,143
1928	1	12,630	3	8,514	7	5,872	6	6,925	8	5,715	2	5,215	4	8,425	5	7,960	9	4,603	10	4,271
1929	1	13,205	3	8,792	8	6,210	6	7,151	9	5,687	2	5,144	4	8,441	5	7,963	7	6,979	10	4,064
1930	1	13,067	2	9,273	7	6,887	7	7,478	8	5,570	3	5,974	6	7,338	4	8,164	10	2,883	9	3,823
1931	1	13,734	2	9,578	7	5,957	5	7,172	8	5,168	3	5,019	6	7,011	4	7,616	10	3,217	9	3,322
1932	1	15,328	2	10,024	6	6,798	7	6,645	8	5,635	3	5,732	5	7,045	4	7,166	9	4,236	10	3,197
1933	1	15,485	2	10,653	4	6,950	7	6,216	8	5,516	3	5,337	6	6,487	5	6,939	9	4,019	10	3,198
1934	1	16,352	2	10,581	3	7,379	6	6,469	8	5,643	4	6,936	5	6,530	7	6,431	10	2,004	9	3,124
1935	1	16,069	2	11,156	3	8,302	5	8,898	8	5,176	6	6,880	4	7,411	7	6,597	9	3,392	10	2,520
1936	1	16,424	2	11,694	3	9,112	4	7,463	8	6,402	7	6,605	5	7,313	6	6,663	9	3,113	10	2,248
1937	1	16,840	2	11,963	3	9,609	5	7,358	8	6,530	7	6,644	4	7,731	6	6,669	9	5,260	10	2,005
1938	1	17,373	2	12,038	3	9,970	5	7,205	7	6,492	6	6,598	4	7,432	8	6,126	9	2,362	10	2,016
1939	1	18,562	2	12,399	3	10,884	4	7,173	6	6,538	7	6,174	5	6,596	8	5,977	9	3,955	10	2,060
1940	1	20,278	2	13,322	3	11,742	4	7,418	5	6,835	6	6,318	6	6,132	8	5,789	9	2,789	10	2,296

(b) Exclusive of Yukon and the Northwest Territories.

(c) There is some variation in the comparison factor between figures for the years 1926-30, and the years 1931-40, due to the disturbance in distribution caused by the revision of the International List of Causes of Death. Adjustments have been made to correct the demographic error as closely as possible.

Institutions and Medical Attendance

It must be noted at the outset that this chapter refers to hospitalization and medical attendance only insofar as they concern vital statistics attributes of the population. In other words, it is not the intention here to discuss the amount of medical services provided to the public by mental and tuberculosis institutions, general and private hospitals, etc., but to indicate the general trend towards hospitalization and the tendency toward a greater utilization of medical services during the past decade or so.

It can hardly be denied that hospitalization has many definite advantages over home medical care, with respect to child-bearing in general, and particularly when dealing with problem cases of maternity. The hospital provides full-time services of trained personnel, as well as clinical, X-Ray, therapeutic, pharmaceutical and dietary facilities, all of which are at the disposal of the attending physician. It seems reasonable to assume that were these services utilized to the fullest extent it would materially affect the Canadian mortality and morbidity rates.

Speaking for conditions in England and Wales, Newholme¹ says in part—

"In general medicine the range of necessary hospital treatment is rapidly increasing; and part of the lowered death-rate of recent decades must be attributed to the triumphs of modern surgery, especially in hospital practice."

Table 46 shows the distribution of live births between 1926 and 1940 occurring in hospitals and in Canadian homes, in each province. It is interesting to note that in 1926, out of every 100 babies born alive, 18 were born in hospitals; in 1940, 45 out of every 100 were born in hospitals. The proportion of children born in hospitals has increased at a remarkably steady rate from 1926 to 1940, and the same uniform trend is apparent in each of the provinces. It may be of interest to note that Ontario and the western provinces have had consistently higher than average proportions of hospitalized births since 1926. The geographical distribution of the percentages of births occurring in hospitals in the year 1940 may be ascertained from Map 5, which clearly indicates the perceptibly higher percentage of hospitalization prevalent in the central and western sections of the country.

Table 47 gives similar data to that of Table 45, respecting stillbirths, but covering the period 1936

to 1940 only. It will be noted that 41.6 per cent of all stillbirths in 1936 occurred in hospitals, and the proportion has steadily increased since that time until in 1940, over 52 per cent of such births took place in the public and private hospitals of Canada. It will be remarked that these percentages of hospitalization are higher than those for live births, and it would appear that as stillbirths are closely associated with the bulk of the difficult deliveries, there would naturally be a greater tendency towards hospitalization for this group. This argument would tend to explain the relatively higher proportion of stillbirth hospitalization in the eastern provinces as compared with the relatively low rate of hospitalization for all live births in the same areas.

Table 48 gives details of the number of all births (live and stillborn) for which there was medical attendance and those which were not attended by a physician. This table reveals that just as there has been a tendency towards greater hospitalization of maternity cases during the past few years, so also there was a trend towards seeking medical attendance at births occurring in the home. In 1936 over 17.5 per cent of all births in the home were unattended by a medical practitioner, while in 1940 for Canada as a whole only about 15.9 per cent were unattended. Although the variations are quite small, they are, however, significant.

The distribution of infant deaths in the provinces of Canada, occurring in hospitals and in homes, between 1926 and 1940 is shown in Table 49. At the beginning of the period, 18.6 per cent of all infant deaths occurred in the public and private hospitals of Canada, while in 1940 hospitalization had increased to 38.8 per cent of all infant deaths. It may be pointed out here that as hospitalization for maternity cases increases, the proportion of infant deaths occurring in hospitals will normally increase in approximately the same ratio, with allowances of course being made for the decreases in the infant mortality rate.

Table 50 gives details of all institutional and non-institutional deaths occurring in each of the provinces between 1926 and 1940, and indicates that whereas in 1926 exactly one-quarter of all deaths in the Dominion occurred in hospitals, in 1940 almost two-fifths of total deaths took place in the public and private hospitals, the sanatoria and the mental institutions. Here as previously noted for births

¹ Newholme, Sir Arthur — *Vital Statistics*, page 297.

and infant deaths, the intervening trend towards hospitalization was remarkable steady, and was similarly apparent in each of the provinces. One notable feature of this table is that in 1940, there was a remarkably steady increase in the percentage of deaths occurring in hospitals as one travels westward from Prince Edward Island, viz. from 20.8 per cent in the East to 53.9 per cent in the West.

The increased tendency towards hospitalization in deaths is all the more remarkable when one takes into consideration the fact that violent deaths in Canada ranked sixth as a leading cause of death in 1940. A glance at Table 51, item 9, "violent deaths", shows that roughly 50 per cent of the violent death group died without the benefit of medical attendance. This proportion of violent deaths would of course cover for the most part the "sudden death" type which is related to circumstances involving accidental, suicidal and homicidal deaths. The cause of death entered on the registration for such cases is subject to the findings of a coroner's jury.

Table 51 indicates the number of deaths in the provinces of Canada in the years 1936 to 1940, classified by various causes, and shows the number who died with and without the benefit of attendance by a practising physician. The details are summarized in the following table which shows the percentages of persons dying from certain causes who were attended at death by a physician.

PERCENTAGES OF PERSONS DYING FROM CERTAIN CAUSES WHO WERE ATTENDED AT DEATH BY A PHYSICIAN, 1936-1940.

Causes of death	Years				
	1936	1937	1938	1939	1940
Tuberculosis (all forms).....	91.9	91.0	91.5	91.2	92.1
Cancer.....	98.5	98.6	98.5	98.4	98.8
Cardio-vascular-renal diseases.....	93.4	92.5	92.2	92.0	91.4
Bronchitis and pneumonia.....	92.5	92.2	92.0	90.4	89.4
Diarrhoea and enteritis.....	90.7	83.0	87.7	84.8	85.2
Maternal mortality.....	95.5	96.1	94.9	94.6	95.3
Diseases of early infancy.....	85.0	83.7	84.4	83.6	85.5
Senility.....	66.5	66.0	66.9	63.7	63.5
Violent deaths.....	58.8	54.4	50.7	50.8	50.7

It will be noted that well over 98 per cent of persons dying from cancer and about 95 per cent of maternal mortality cases had a physician in attendance at death, while well over nine of every ten persons dying from tuberculosis, cardio-vascular-renal diseases, and bronchitis and pneumonia were attended by a physician at death. In 1940 a physician was in attendance at about 85 of every 100 deaths from diarrhoea and diseases of early infancy. Violent deaths and deaths from senility, as might be expected,

showed relatively low rates of medical attendance. It might be mentioned that since 1936, medical attendance for persons dying from the cardio-vascular-renal diseases, from bronchitis and pneumonia and from senility tended to drop off slightly, but as the figures on deaths from the latter disease are relatively small, it is doubtful if any great significance can be attached to this fact.

Maternal mortality in the public and private hospitals of Canada by provinces is shown in Table 52, together with the urban and rural distribution for 1939 and 1940. The figures show the very definite weighting of deaths of Canadian mothers in urban areas for those deaths which occur in the hospitals and in all provinces, and a reverse situation for maternal deaths in the non-hospitalized group. The high ratio of hospitalization in Central Canada and the four western provinces is further evident in this table. In 1940, 70.1 per cent of maternal deaths occurred in hospitals compared with 64.3 per cent in 1939.² Rural and urban figures show similar increases in hospitalization for 1939 and 1940 from 22.3 per cent to 31.2 per cent respectively, and 84.5 per cent to 88.3 per cent respectively.

Table 53 gives details of the total hospitalized live births, and the total hospitalized deaths, occurring in each of the counties or census divisions of the country in the year 1940, and forms the basis of Maps 5 and 6. These latter clearly indicate the areas where adequate hospitalization apparently may not be available to—may not be fully utilized by—or may not readily be accessible to—the population living in rural areas of certain sections of the country. The following table summarizes the provincial distribution of areas according to the percentages of hospitalization of live births and deaths during 1940.

TOTAL NUMBERS OF COUNTIES OR CENSUS DIVISIONS IN EACH PROVINCE HAVING SPECIFIED PERCENTAGES OF HOSPITALIZED LIVE BIRTHS, AND HOSPITALIZED DEATHS, 1940.

Percentage of hospitalization	CANADA		Prince Edward Island	Nova Scotia	New Brunswick		Quebec			
	Births	Deaths			Births	Deaths				
No hospitalization.....	37	26	—	—	2	2	3	2	28	17
Less than 10 p.c.	41	39	1	2	2	3	5	3	30	25
10 to 30 p.c.	27	47	1	—	7	7	4	5	5	11
30 to 50 p.c.	33	52	1	1	1	4	1	4	3	8
50 to 70 p.c.	44	25	—	—	5	2	1	—	—	1
70 to 80 p.c.	21	29	—	—	1	—	—	1	—	4
80 p.c. and over....	15	—	—	—	—	—	1	—	—	—

² Allowance must be made, of course, for the much higher percentage of hospitalized maternity cases and for any reduction in the maternal mortality rate between the two years.

TOTAL NUMBERS OF COUNTIES OR CENSUS DIVISIONS IN EACH PROVINCE HAVING SPECIFIED PERCENTAGES OF HOSPITALIZED LIVE BIRTHS, AND HOSPITALIZED DEATHS, 1940.—Continued.

Percentage of hospitalization	Ontario		Manitoba		Saskat-		Alberta		British Columbia	
	Births	Deaths	Births	Deaths	Births	Deaths	Births	Deaths	Births	Deaths
No hospitalization.	4	5	-	-	-	-	-	-	-	-
Less than 10 p.c.	3	4	-	1	-	1	-	-	-	-
10 to 30 p.c.	5	13	3	9	1	-	1	2	-	-
30 to 50 p.c.	15	19	4	2	5	6	2	5	1	3
50 to 70 p.c.	16	10	8	1	6	6	6	5	2	-
70 to 80 p.c.	9	4	-	3	5	5	4	5	2	7
80 p.c. and over.	3	-	1	-	1	-	4	-	5	-

The outlying areas especially of Quebec and New Brunswick are conspicuous in their lower than average hospitalization rates, as well as some of the northern sections of the Prairies. A fact which may be worthy of note is that although adequate hospitalization is available in the relatively small and accessible area of Prince Edward Island, not more than one-quarter of the births or deaths on the island were hospitalized in 1940, while in the much vaster outlying areas of New Brunswick, the ratio of hospitalization for the whole province was as high as that of Prince Edward Island. As previously noted, Ontario and the western provinces show conspicuously high percentages of hospitalization, both for live births and for deaths.

TABLE 46—INSTITUTIONAL AND NON-INSTITUTIONAL LIVE BIRTHS, SHOWING THE PERCENTAGE OF INSTITUTIONAL BIRTHS IN CANADA BY PROVINCES, 1926-40.

Year	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
INSTITUTIONAL										
1926	41,521	48	804	875	3,982	16,849	4,596	4,669	4,841	4,857
1927	45,148	76	781	977	4,151	18,465	4,880	5,349	5,756	4,713
1928	50,979	121	1,269	1,018	5,039	20,768	5,311	5,681	6,657	5,115
1929	57,730	194	1,828	1,187	5,207	23,364	5,694	6,511	7,684	6,061
1930	64,850	222	2,114	1,370	6,003	26,410	6,198	7,084	8,472	6,977
1931	64,524	210	2,206	1,303	6,130	26,471	6,274	6,923	8,240	6,767
1932	64,779	294	2,291	1,544	6,842	26,390	6,304	6,332	8,031	6,751
1933	63,564	223	2,245	1,419	7,289	25,991	6,040	6,259	7,605	6,493
1934	66,441	266	2,586	1,618	7,596	26,506	6,262	6,776	8,172	6,659
1935	71,567	261	2,905	1,784	7,887	28,569	6,772	7,390	8,826	7,173
1936	76,047	293	3,327	1,945	8,093	30,462	7,017	7,620	9,323	7,967
1937	80,270	377	3,518	2,159	8,968	30,824	7,209	8,293	10,261	8,661
1938	90,414	367	4,293	2,540	10,016	35,372	8,105	9,038	10,696	9,987
1939	95,785	461	4,510	2,656	11,178	36,958	8,614	9,706	11,553	10,149
1940	110,781	550	5,674	3,088	13,080	42,561	10,129	11,361	12,662	11,676
NON-INSTITUTIONAL										
1926	191,229	1,704	10,176	9,465	78,183	50,768	10,065	16,047	9,615	5,206
1927	189,040	1,621	10,353	9,502	78,913	49,206	9,267	15,666	9,141	5,371
1928	185,773	1,685	9,662	9,029	78,582	47,742	9,193	15,580	9,035	5,270
1929	177,685	1,476	8,860	9,048	76,173	45,094	8,542	14,935	9,240	4,317
1930	178,645	1,527	9,232	9,164	77,622	44,853	8,213	14,967	9,177	3,890
1931	175,949	1,669	9,409	9,498	77,476	42,738	8,102	14,408	9,012	3,637
1932	170,887	1,733	9,338	9,266	75,374	40,452	7,820	14,482	8,959	3,463
1933	159,304	1,723	8,919	8,618	69,631	37,655	7,264	13,886	8,518	3,090
1934	154,862	1,677	8,821	8,546	68,836	35,728	7,048	12,988	8,064	3,154
1935	149,884	1,749	8,712	8,604	67,380	34,500	6,563	12,179	7,357	2,840
1936	144,324	1,684	8,481	8,568	67,192	31,989	5,838	11,505	6,463	2,604
1937	139,965	1,716	8,054	8,421	66,667	30,821	5,679	10,347	5,642	2,618
1938	139,032	1,607	7,948	8,907	68,129	30,192	5,373	9,192	5,195	2,489
1939	133,683	1,667	7,315	8,630	68,443	27,165	4,969	8,353	4,917	2,224
1940	133,535	1,547	7,182	8,612	70,777	25,963	4,642	7,961	4,697	2,154
PER CENT INSTITUTIONAL										
1926	17.8	2.7	7.3	8.5	4.8	24.9	31.3	22.5	33.5	48.3
1927	19.3	4.5	7.0	9.3	5.0	27.3	34.5	25.5	38.6	46.7
1928	21.5	6.7	11.6	10.1	6.0	30.3	36.6	26.7	42.4	49.3
1929	24.5	11.6	17.1	11.6	6.4	34.1	40.0	30.4	45.4	58.4
1930	26.6	12.7	18.6	13.0	7.2	37.1	43.0	32.1	48.0	64.2
1931	26.8	11.2	19.0	12.1	7.3	38.2	43.6	32.5	47.8	65.0
1932	27.5	14.5	19.7	14.3	8.3	39.5	44.6	30.4	47.3	66.1
1933	28.5	11.5	20.1	14.1	9.5	40.8	45.4	31.1	47.2	67.8
1934	30.0	13.7	22.7	15.9	9.9	42.6	47.0	34.3	50.3	67.9
1935	32.3	13.0	25.0	17.2	10.5	39.4	50.8	37.8	54.5	71.6
1936	34.5	14.8	28.2	18.5	10.7	48.8	54.6	39.8	59.1	75.4
1937	36.4	18.0	30.4	20.4	11.9	50.0	55.9	44.5	64.5	76.8
1938	39.4	18.6	35.1	22.2	12.8	54.0	60.1	49.6	67.3	80.0
1939	41.7	21.7	38.1	23.5	14.0	57.6	63.4	53.7	70.1	82.0
1940	45.3	26.2	44.1	26.4	15.6	62.1	68.6	58.8	72.9	84.4

TABLE 47 — INSTITUTIONAL AND NON-INSTITUTIONAL STILLBIRTHS, SHOWING THE PERCENTAGE OF
INSTITUTIONAL STILLBIRTHS IN CANADA BY PROVINCES, 1936-40.

Year	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
INSTITUTIONAL										
1936.....	2,639	12	104	75	468	1,154	206	197	252	171
1937.....	2,789	13	103	92	500	1,172	223	205	253	208
1938.....	3,018	12	165	124	532	1,271	240	205	246	223
1939.....	3,062	19	174	100	615	1,298	216	189	248	203
1940.....	3,458	22	200	124	656	1,380	259	274	297	246
NON-INSTITUTIONAL										
1936.....	3,711	58	188	162	1,897	880	117	234	124	51
1937.....	3,506	50	191	181	1,812	816	122	193	102	39
1938.....	3,408	49	191	190	1,824	744	107	165	105	33
1939.....	3,303	39	190	189	1,800	667	112	183	87	36
1940.....	3,176	30	165	172	1,826	657	97	120	81	28
PER CENT INSTITUTIONAL										
1936.....	41.6	17.1	35.6	31.6	19.8	56.7	63.8	45.7	67.0	77.0
1937.....	44.1	20.6	35.0	33.7	21.6	59.0	64.6	51.5	71.3	84.2
1938.....	47.0	19.7	46.3	39.5	22.6	63.1	69.2	55.4	70.1	87.1
1939.....	48.1	32.8	47.8	34.6	25.5	66.1	65.9	50.8	74.0	84.9
1940.....	52.1	42.3	54.8	41.9	26.4	67.7	72.8	69.5	78.6	89.8

TABLE 48—TOTAL BIRTHS (LIVE BIRTHS AND STILLBIRTHS) WITH AND WITHOUT MEDICAL ATTENDANCE IN CANADA BY PROVINCES, 1936-40.

	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
1. ALL BIRTHS (LIVE BIRTHS AND STILLBIRTHS)										
(a) With physician										
1936.....	200,408	1,874	11,243	7,743	68,344	63,138	10,466	15,127	12,626	9,847
1937.....	203,054	1,979	11,056	8,206	69,603	62,426	10,691	15,434	13,156	10,503
1938.....	213,088	1,856	11,830	8,991	72,468	66,404	11,444	15,180	13,254	11,681
1939.....	213,519	2,015	11,495	8,750	73,813	65,015	11,626	15,270	13,872	11,663
1940.....	228,620	1,976	12,483	9,322	78,103	69,534	12,848	16,371	14,889	13,094
(b) Without physician (1)										
1936.....	26,313	173	857	3,007	9,306	1,347	2,712	4,429	3,536	946
1937.....	23,456	177	810	2,647	8,344	1,207	2,542	3,604	3,102	1,023
1938.....	22,784	179	767	2,770	8,033	1,175	2,381	3,440	2,988	1,051
1939.....	22,314	171	694	2,825	8,223	1,073	2,285	3,161	2,933	949
1940.....	22,330	173	738	2,674	8,236	1,027	2,279	3,345	2,848	1,010
2. INSTITUTIONAL										
(a) With physician										
1936.....	78,316	305	3,415	2,019	8,554	31,568	7,203	7,693	9,495	8,064
1937.....	82,745	388	3,610	2,250	9,465	31,951	7,411	8,417	10,445	8,808
1938.....	93,018	373	4,448	2,661	10,529	36,574	8,288	9,147	10,876	10,122
1939.....	98,435	474	4,678	2,752	11,764	38,191	8,798	9,762	11,726	10,290
1940.....	113,693	570	5,858	3,207	13,694	43,879	10,343	11,375	12,862	11,905
(b) Without physician (1)										
1936.....	370	—	16	1	7	48	20	124	80	74
1937.....	294	2	11	1	3	45	21	81	69	61
1938.....	414	6	10	3	19	69	57	96	66	88
1939.....	412	6	6	4	29	65	32	133	75	62
1940.....	546	2	16	5	42	62	45	260	97	17
3. NON-INSTITUTIONAL										
(a) With physician										
1936.....	122,092	1,569	7,828	5,724	59,790	31,570	3,263	7,434	3,131	1,783
1937.....	120,309	1,591	7,446	5,956	60,138	30,475	3,280	7,017	2,711	1,695
1938.....	120,070	1,483	7,382	6,330	61,939	29,830	3,156	6,013	2,378	1,559
1939.....	115,084	1,541	6,817	5,998	62,049	26,824	2,828	5,508	2,146	1,373
1940.....	114,927	1,406	6,625	6,115	64,409	25,655	2,505	4,996	2,027	1,189
(b) Without physician (1)										
1936.....	25,943	173	841	3,006	9,299	1,299	2,692	4,305	3,456	872
1937.....	23,162	175	799	2,646	8,341	1,162	2,521	3,523	3,033	962
1938.....	22,370	173	757	2,767	8,014	1,106	2,324	3,344	2,922	963
1939.....	21,902	165	688	2,821	8,194	1,008	2,253	3,028	2,858	887
1940.....	21,784	171	722	2,669	8,194	965	2,234	3,085	2,751	993

(1) Including the "not stated" group.

TABLE 49—INSTITUTIONAL AND NON-INSTITUTIONAL DEATHS UNDER ONE YEAR OF AGE, SHOWING THE PERCENTAGE OF INSTITUTIONAL DEATHS IN CANADA, BY PROVINCES, 1926-40.

Year	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
INSTITUTIONAL										
1926.....	4,411	13	86	94	1,554	1,470	279	311	361	243
1927.....	4,337	4	113	78	1,504	1,479	288	318	319	234
1928.....	4,579	4	103	101	1,549	1,551	304	324	378	265
1929.....	5,104	18	140	113	1,466	1,964	297	375	430	301
1930.....	5,477	21	161	114	1,628	2,098	341	399	411	304
1931.....	5,130	13	162	128	1,506	1,891	325	372	454	279
1932.....	4,856	8	166	103	1,564	1,734	270	350	397	264
1933.....	4,494	12	142	122	1,531	1,606	224	282	328	247
1934.....	4,450	17	186	120	1,556	1,456	238	323	337	217
1935.....	4,700	12	181	119	1,617	1,564	272	319	366	250
1936.....	4,851	20	203	136	1,607	1,639	292	310	386	258
1937.....	5,356	26	212	169	1,887	1,632	267	404	454	305
1938.....	5,237	12	221	166	1,701	1,729	306	355	420	327
1939.....	4,987	22	211	142	1,621	1,630	284	390	397	290
1940.....	5,349	22	250	181	1,592	1,750	333	443	463	315
NON-INSTITUTIONAL										
1926.....	19,281	110	796	1,001	10,112	3,832	843	1,370	872	345
1927.....	17,673	109	915	928	9,235	3,333	733	1,257	791	372
1928.....	16,616 ^a	88	762	859	8,783	3,329	668	1,046	822	259
1929.....	16,570	132	820	977	8,344	3,239	708	1,196	880	274
1930.....	16,265	111	776	934	8,417	3,162	694	1,202	711	258
1931.....	15,230	115	752	816	7,937	2,942	599	1,091	743	235
1932.....	12,407	124	683	671	6,180	2,399	566	971	600	213
1933.....	11,790	106	649	699	5,739	2,198	620	949	638	192
1934.....	11,420	113	621	758	5,832	2,067	496	770	554	209
1935.....	11,030	133	657	747	5,322	1,951	565	875	570	210
1936.....	9,723	117	578	670	4,613	1,777	487	720	554	207
1937.....	11,337	126	600	903	5,693	1,750	559	841	540	325
1938.....	9,280	102	533	693	4,785	1,516	444	586	392	229
1939.....	8,952	146	550	751	4,589	1,349	468	540	366	193
1940.....	8,434	115	552	753	4,264	1,209	423	536	371	211
PER CENT INSTITUTIONAL										
1926.....	18.6	10.6	9.8	8.6	13.3	27.7	24.9	18.5	29.3	41.3
1927.....	19.7	3.5	11.0	7.8	14.0	30.7	28.2	20.2	28.7	38.6
1928.....	21.6	4.3	11.9	10.5	15.0	31.8	31.3	23.6	31.5	50.6
1929.....	23.5	12.0	14.6	10.4	14.9	37.7	29.6	23.9	32.8	52.3
1930.....	25.2	15.9	17.2	10.9	16.2	39.9	32.9	24.9	36.6	54.1
1931.....	25.2	10.2	17.7	13.6	15.9	39.1	35.2	25.4	37.9	54.3
1932.....	28.1	6.1	19.6	13.3	20.2	42.0	32.3	26.5	39.8	55.3
1933.....	27.6	10.2	18.0	14.9	21.1	42.2	26.5	22.9	34.0	56.3
1934.....	28.0	13.1	23.0	13.7	21.1	41.3	32.4	29.6	37.8	50.9
1935.....	29.9	8.3	21.6	13.7	23.3	44.5	32.5	26.7	39.1	54.3
1936.....	33.3	14.6	26.0	16.9	25.8	48.0	37.5	30.1	41.1	55.5
1937.....	32.1	17.1	26.1	15.8	24.9	48.3	32.3	32.4	45.7	48.4
1938.....	36.1	10.5	29.3	19.3	26.2	53.3	40.8	37.7	51.7	58.8
1939.....	35.8	13.1	27.7	15.9	26.1	54.7	37.8	41.9	52.0	60.0
1940.....	38.8	16.1	31.2	19.4	27.2	59.1	44.0	45.3	55.5	59.9

TABLE 50—INSTITUTIONAL AND NON-INSTITUTIONAL DEATHS, SHOWING THE PERCENTAGE OF INSTITUTIONAL DEATHS IN CANADA, BY PROVINCES, 1926-40.

Year	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
INSTITUTIONAL										
1926.....	26,882	118	1,070	834	6,781	10,151	1,906	1,682	1,889	2,451
1927.....	26,950	91	1,206	890	6,362	10,194	1,976	1,766	1,967	2,498
1928.....	29,469	95	1,149	919	6,967	11,189	2,083	2,031	2,229	2,807
1929.....	32,227	165	1,265	989	7,247	12,327	2,263	2,219	2,599	3,153
1930.....	32,188	207	1,336	1,033	7,321	12,513	2,226	2,065	2,369	3,118
1931.....	31,011	155	1,252	959	7,321	11,992	2,101	2,023	2,264	2,944
1932.....	31,862	179	1,275	969	7,895	11,948	2,065	2,092	2,442	2,997
1933.....	31,261	168	1,252	1,053	7,928	11,617	1,947	2,043	2,266	2,987
1934.....	32,856	218	1,387	1,007	8,285	12,103	2,027	2,226	2,461	3,142
1935.....	35,378	156	1,395	1,071	9,186	12,783	2,386	2,290	2,672	3,439
1936.....	37,564	189	1,385	1,139	9,461	13,555	2,605	2,433	3,069	3,728
1937.....	40,451	224	1,481	1,338	10,707	14,190	2,516	2,851	3,100	4,044
1938.....	39,302	204	1,600	1,202	10,037	14,073	2,573	2,548	3,097	3,968
1939.....	40,497	244	1,682	1,278	10,502	14,421	2,799	2,533	2,995	4,043
1940.....	43,072	222	1,766	1,333	10,802	15,322	2,954	2,960	3,231	4,482
NON-INSTITUTIONAL										
1926.....	80,572	780	5,296	4,168	30,470	25,758	3,429	4,378	3,270	3,023
1927.....	78,342	822	5,172	4,012	29,813	24,581	3,333	4,265	3,092	3,252
1928.....	79,588	857	5,053	4,053	29,665	25,939	3,313	4,135	3,470	3,103
1929.....	81,288	957	5,395	4,241	29,974	25,796	3,545	4,496	3,640	3,244
1930.....	77,118	754	4,870	3,958	28,624	24,800	3,459	4,244	3,127	3,282
1931.....	73,506	757	4,716	3,685	27,166	23,713	3,218	4,043	3,038	3,170
1932.....	72,515	872	4,884	3,585	25,193	24,521	3,276	3,952	3,079	3,153
1933.....	70,707	864	4,793	3,855	23,708	23,684	3,508	3,981	3,080	3,234
1934.....	68,726	815	4,641	3,658	23,644	23,016	3,142	3,698	2,876	3,236
1935.....	70,189	819	4,769	3,708	23,653	23,534	3,395	3,836	3,057	3,418
1936.....	69,486	835	4,512	3,664	22,392	24,016	3,614	3,881	3,078	3,494
1937.....	73,373	922	4,602	4,095	24,749	24,285	3,554	4,076	3,161	3,929
1938.....	67,515	826	4,487	3,696	22,572	22,817	3,320	3,531	2,774	3,492
1939.....	68,454	889	4,642	3,804	22,886	23,109	3,358	3,498	2,794	3,474
1940.....	67,855	845	4,473	3,652	21,997	23,181	3,385	3,517	2,972	3,833
PER CENT INSTITUTIONAL										
1926.....	25.0	13.1	16.8	16.7	18.2	28.3	35.7	27.8	36.6	44.8
1927.....	25.6	10.0	18.9	18.2	17.6	29.3	37.2	29.3	38.9	43.4
1928.....	27.0	10.0	18.5	18.5	19.0	30.1	38.6	32.9	39.1	47.5
1929.....	28.4	14.7	19.0	18.9	19.5	32.3	39.0	33.0	41.7	49.3
1930.....	29.4	21.5	21.5	20.7	20.4	33.5	39.2	32.7	43.1	48.7
1931.....	29.7	17.0	21.0	20.7	21.2	33.6	39.5	33.3	42.7	48.2
1932.....	30.5	17.0	20.7	21.3	23.9	32.8	38.7	34.6	44.2	48.7
1933.....	30.7	16.3	20.7	21.5	25.1	32.9	35.7	33.9	42.4	48.0
1934.....	32.3	21.1	23.0	21.6	25.9	34.5	39.2	37.6	46.1	49.3
1935.....	33.5	16.0	22.6	22.4	28.0	35.2	41.3	37.4	46.6	50.2
1936.....	35.1	18.5	23.5	23.7	29.7	36.1	41.9	38.5	49.9	51.6
1937.....	35.5	19.5	24.3	24.6	30.2	36.9	41.4	41.2	49.5	50.7
1938.....	36.8	19.8	26.3	24.5	30.8	38.1	43.7	41.9	52.8	53.2
1939.....	37.2	21.5	26.6	25.1	31.5	38.4	45.5	42.0	51.7	53.8
1940.....	38.8	20.8	28.3	26.7	32.9	39.8	46.6	45.7	52.1	53.9

TABLE 51—DEATHS BY VARIOUS CAUSES, WITH AND WITHOUT MEDICAL ATTENDANCE IN CANADA,
BY PROVINCES, 1936-40.

	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
1. TUBERCULOSIS (ALL FORMS)										
(a) Medical attendance										
1936.....	6,216	61	472	318	2,684	1,300	340	241	308	492
1937.....	6,071	65	452	346	2,588	1,276	310	264	269	501
1938.....	5,602	81	408	310	2,453	1,206	260	232	207	445
1939.....	5,448	63	416	257	2,507	1,059	284	189	205	468
1940.....	5,334	56	409	255	2,384	985	287	203	249	506
(b) No medical attendance (2)										
1936.....	547	—	13	39	206	27	80	38	74	70
1937.....	598	—	9	42	181	39	116	39	71	101
1938.....	524	—	7	32	163	31	89	39	73	90
1939.....	529	—	12	29	173	26	83	44	78	84
1940.....	455	—	6	40	119	26	82	38	72	72
2. CANCER										
(a) Medical attendance										
1936.....	11,520	108	679	446	2,843	4,427	764	701	629	923
1937.....	11,795	137	708	458	2,946	4,521	731	678	588	1,028
1938.....	11,859	138	670	456	3,105	4,454	757	627	674	978
1939.....	12,203	107	719	491	3,098	4,548	832	733	639	1,036
1940.....	13,160	113	753	523	3,517	4,825	792	726	749	1,162
(b) No medical attendance (3)										
1936.....	174	—	8	13	96	14	11	9	12	11
1937.....	168	—	9	8	87	26	7	11	10	10
1938.....	179	—	18	10	86	18	17	14	7	9
1939.....	196	—	11	7	108	19	18	16	9	8
1940.....	162	—	9	10	74	22	16	10	10	11
3. CARDIO-VASCULAR-RENAL DISEASES (1)										
(a) Medical attendance										
1936.....	31,924	303	1,764	1,301	8,515	13,489	1,563	1,479	1,453	2,057
1937.....	32,358	347	1,760	1,291	8,712	13,555	1,603	1,466	1,500	2,124
1938.....	33,070	340	1,895	1,306	8,667	13,735	1,659	1,669	1,555	2,244
1939.....	34,998	378	1,978	1,368	9,342	14,442	1,781	1,664	1,702	2,343
1940.....	37,614	347	1,982	1,386	10,019	15,745	1,944	1,827	1,712	2,652
(b) No medical attendance (2)										
1936.....	2,262	10	93	118	458	916	167	133	70	297
1937.....	2,626	9	93	101	523	1,020	183	210	148	339
1938.....	2,781	10	85	118	612	1,054	201	212	140	349
1939.....	3,046	11	108	145	651	1,155	199	243	155	379
1940.....	3,537	13	113	155	642	1,429	254	267	224	440
4. BRONCHITIS AND PNEUMONIA										
(a) Medical attendance										
1936.....	7,084	113	417	338	2,001	2,559	418	402	391	445
1937.....	7,434	105	392	415	2,157	2,607	388	522	400	448
1938.....	7,136	107	489	457	1,938	2,540	365	397	426	417
1939.....	6,246	101	451	350	1,844	2,201	321	348	289	341
1940.....	5,776	91	368	278	1,656	2,021	323	364	309	366
(b) No medical attendance (2)										
1936.....	571	3	18	77	183	54	67	71	71	27
1937.....	625	1	28	29	204	73	81	75	77	57
1938.....	621	—	30	71	211	43	71	63	75	57
1939.....	661	3	29	79	221	58	76	59	89	47
1940.....	687	1	37	114	187	59	76	80	80	53

(1) Including cerebral haemorrhage, etc.

(2) Includes inquests and inquiries held by coroners and deaths of Indians on remote Reservations.

TABLE 51—DEATHS BY VARIOUS CAUSES, WITH AND WITHOUT MEDICAL ATTENDANCE IN CANADA,
BY PROVINCES, 1936-40.—Continued.

	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
5. DIARRHOEA AND ENTERITIS										
(a) Medical attendance										
1936.....	2,156	10	75	54	1,101	507	116	129	105	59
1937.....	3,501	22	157	264	2,082	544	108	168	103	53
1938.....	2,272	17	95	71	1,174	494	121	141	100	59
1939.....	2,013	26	57	83	1,162	375	96	98	76	40
1940.....	1,611	16	37	96	915	245	79	100	72	51
(b) No medical attendance ⁽²⁾										
1936.....	222	—	—	19	108	17	30	26	19	3
1937.....	715	1	6	157	447	19	34	35	12	4
1938.....	318	—	7	36	170	14	40	30	18	3
1939.....	362	—	1	77	203	15	30	18	14	4
1940.....	280	—	1	63	136	12	19	24	20	5
6. MATERNAL MORTALITY										
(a) Medical attendance										
1936.....	1,178	10	49	62	429	349	67	79	88	45
1937.....	1,029	12	35	37	377	315	51	81	72	49
1938.....	919	5	50	49	385	246	33	45	62	44
1939.....	915	15	49	49	352	272	43	51	53	31
1940.....	932	6	54	53	357	249	52	56	62	43
(b) No medical attendance ⁽²⁾										
1936.....	55	1	2	7	21	6	3	7	3	5
1937.....	42	—	—	2	20	4	4	5	5	2
1938.....	49	—	1	3	23	5	6	1	6	4
1939.....	52	1	—	5	17	4	4	8	6	7
1940.....	46	—	—	3	20	5	5	6	7	—
7. DISEASES OF EARLY INFANCY										
(a) Medical attendance										
1936.....	5,612	54	331	238	2,232	1,588	281	382	332	174
1937.....	5,563	52	279	226	2,225	1,577	271	390	332	211
1938.....	5,567	32	314	246	2,257	1,592	250	358	293	225
1939.....	5,163	64	274	193	2,090	1,476	247	354	271	194
1940.....	5,401	53	288	243	2,171	1,496	244	355	322	229
(b) No medical attendance ⁽²⁾										
1936.....	993	12	30	202	512	49	41	70	57	20
1937.....	1,081	9	32	240	521	41	66	63	70	39
1938.....	1,031	12	30	213	527	33	50	74	58	34
1939.....	1,011	9	31	214	518	28	81	59	42	29
1940.....	917	7	39	194	437	33	56	74	48	29
8. SENILITY (OLD AGE)										
(a) Medical attendance										
1936.....	1,124	33	124	71	278	364	51	79	44	80
1937.....	1,149	30	122	103	197	410	82	93	42	70
1938.....	1,180	27	126	84	238	440	58	79	64	64
1939.....	1,028	28	128	60	206	365	56	70	42	73
1940.....	988	23	126	64	183	315	66	78	43	90
(b) No medical attendance ⁽²⁾										
1936.....	567	24	116	169	111	32	17	44	25	29
1937.....	592	31	132	159	124	29	20	23	35	39
1938.....	584	31	127	150	113	35	17	33	33	45
1939.....	586	29	100	157	144	35	26	19	38	38
1940.....	567	42	106	115	111	24	34	27	53	55

(2) Includes inquests and inquiries held by coroners and deaths of Indians on remote Reservations.

TABLE 51—DEATHS BY VARIOUS CAUSES, WITH AND WITHOUT MEDICAL ATTENDANCE IN CANADA,
BY PROVINCES, 1936-40.—Continued.

	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
9. VIOLENT DEATHS										
(a) Medical attendance										
1936.....	4,390	34	185	125	924	2,132	237	175	279	299
1937.....	4,005	27	242	176	948	1,673	181	217	215	326
1938.....	3,653	29	192	118	879	1,564	195	152	222	302
1939.....	3,646	25	216	179	806	1,508	215	165	236	296
1940.....	3,759	30	214	167	839	1,581	209	183	238	298
(b) No medical attendance ⁽²⁾										
1936.....	3,073	16	140	85	555	1,162	219	288	227	381
1937.....	3,353	22	143	108	796	1,178	198	234	258	416
1938.....	3,552	7	183	137	879	1,190	249	251	236	420
1939.....	3,527	20	173	130	827	1,210	211	276	231	449
1940.....	3,659	19	192	117	798	1,345	195	263	273	457
10. TOTAL SPECIFIED CAUSES										
(a) Medical attendance										
1936.....	96,307	940	5,340	3,784	28,626	35,053	5,430	5,459	5,455	6,220
1937.....	101,106	1,044	5,492	4,274	31,353	35,743	5,185	5,987	5,337	6,691
1938.....	95,025	949	5,470	3,913	28,863	34,227	5,003	5,222	5,085	6,293
1939.....	96,670	1,029	5,711	3,957	29,545	34,732	5,241	5,149	4,967	6,339
1940.....	98,370	955	5,555	3,907	29,468	35,318	5,421	5,500	5,219	7,027
(b) No medical attendance ⁽²⁾										
1936.....	10,032	69	486	845	2,955	2,461	782	824	660	950
1937.....	11,945	83	515	915	3,857	2,669	869	914	894	1,229
1938.....	11,180	62	556	837	3,555	2,601	873	822	757	1,117
1939.....	11,685	76	571	976	3,620	2,741	896	868	782	1,155
1940.....	11,923	86	618	946	3,153	3,122	884	940	929	1,245
11. UNSPECIFIED OR ILL-DEFINED CAUSES										
(a) Medical attendance										
1936.....	238	2	38	16	131	25	3	8	8	7
1937.....	191	3	24	18	100	19	3	8	8	8
1938.....	183	6	14	19	87	22	6	11	9	9
1939.....	201	10	17	21	102	21	8	6	10	6
1940.....	183	7	25	19	79	23	9	8	8	5
(b) No medical attendance ⁽²⁾										
1936.....	473	13	33	158	141	32	4	23	24	45
1937.....	582	16	52	226	146	44	13	18	22	45
1938.....	429	13	47	129	104	40	11	24	20	41
1939.....	395	18	25	128	121	36	12	8	30	17
1940.....	451	19	41	113	99	40	25	29	47	38
12. ALL CAUSES										
(a) Medical attendance										
1936.....	96,545	942	5,378	3,800	28,757	35,078	5,433	5,467	5,463	6,227
1937.....	101,297	1,047	5,516	4,292	31,453	35,762	5,188	5,995	5,345	6,699
1938.....	95,208	955	5,484	3,932	28,950	34,249	5,009	5,233	5,094	6,302
1939.....	96,871	1,039	5,728	3,978	29,647	34,753	5,249	5,155	4,977	6,345
1940.....	98,553	962	5,580	3,926	29,547	35,341	5,430	5,508	5,227	7,032
(b) No medical attendance ⁽²⁾										
1936.....	10,505	82	519	1,003	3,096	2,493	786	847	684	995
1937.....	12,527	99	567	1,141	4,003	2,713	882	932	916	1,274
1938.....	11,609	75	603	966	3,659	2,641	884	846	777	1,158
1939.....	12,080	94	596	1,104	3,741	2,777	908	876	812	1,172
1940.....	12,374	105	659	1,059	3,252	3,162	909	969	976	1,283

⁽²⁾ Includes inquests and inquiries held by coroners and deaths of Indians on remote Reservations.

TABLE 52—MATERNAL MORTALITY IN CANADA BY PROVINCES, RURAL AND URBAN, SHOWN AS
INSTITUTIONAL AND NON-INSTITUTIONAL, 1939, 1940.

	CANADA	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
ALL MATERNAL DEATHS										
Total										
1939.....	967	16	49	54	369	276	47	59	59	38
1940.....	978	6	54	56	377	254	57	62	69	43
Rural										
1939.....	314	10	12	29	114	54	21	34	23	17
1940.....	311	2	16	21	118	53	18	35	34	14
Urban										
1939.....	653	6	37	25	255	222	26	25	36	21
1940.....	667	4	38	35	259	201	39	27	35	29
INSTITUTIONAL										
Total										
1939.....	622	5	37	25	189	224	34	35	45	28
1940.....	686	4	35	36	231	203	44	47	49	37
Rural										
1939.....	70	—	2	3	9	18	8	11	11	8
1940.....	97	1	3	5	10	21	7	23	18	9
Urban										
1939.....	552	5	35	22	180	206	26	24	34	20
1940.....	589	3	32	31	221	182	37	24	31	28
NON-INSTITUTIONAL										
Total										
1939.....	345	11	12	29	180	52	13	24	14	10
1940.....	292	2	19	20	146	51	13	15	20	6
Rural										
1939.....	244	10	10	26	105	36	13	23	12	9
1940.....	214	1	13	16	108	32	11	12	16	5
Urban										
1939.....	101	1	2	3	75	16	—	1	2	1
1940.....	78	1	6	4	38	19	2	3	4	1

TABLE 53—PERCENTAGE OF HOSPITALIZATION OF LIVE BIRTHS AND TOTAL DEATHS BY PLACE OF OCCURRENCE IN CANADA BY PROVINCES AND COUNTIES OR CENSUS DIVISIONS, 1940.

Provinces and counties or census divisions.	Total Live Births	Live Births in Institutions		Total Deaths	Deaths in Institutions	
		Number	Per cent of total		Number	Per cent of total
CANADA.....	244,316	110,781	45.3	110,927	43,072	38.8
PRINCE EDWARD ISLAND.....	2,097	550	26.2	1,067	222	20.8
Kings.....	369	33	8.9	217	8	3.7
Prince.....	858	114	13.3	340	23	6.8
Queens.....	870	403	46.3	510	191	37.5
NOVA SCOTIA.....	12,856	5,674	44.1	6,239	1,766	28.3
Annapolis.....	351	232	66.1	209	47	22.5
Antigonish.....	317	241	76.0	186	84	45.2
Cape Breton.....	2,857	1,733	60.7	951	366	38.5
Colchester.....	586	159	27.1	345	82	23.8
Cumberland.....	923	262	28.4	443	112	25.3
Digby.....	456	75	16.4	221	26	11.8
Guy'sborough.....	313	11	3.5	144	3	2.1
Halifax.....	2,773	1,469	53.0	1,429	588	41.1
Hants.....	496	136	27.4	262	56	21.4
Inverness.....	391	180	46.0	238	38	16.0
Kings.....	614	345	56.2	353	126	35.2
Lunenburg.....	627	128	20.4	379	61	16.1
Pictou.....	777	498	64.1	407	92	22.6
Queens.....	286	72	25.2	106	7	6.6
Richmond.....	202	—	—	86	—	—
Shelburne.....	268	1	0.4	143	7	4.9
Victoria.....	137	—	—	82	—	—
Yarmouth.....	482	132	27.4	250	71	28.4
NEW BRUNSWICK.....	11,700	3,088	26.4	4,985	1,333	26.7
Albert.....	163	14	8.6	102	13	12.7
Carleton.....	523	134	25.6	264	68	25.8
Charlotte.....	483	256	53.0	254	63	24.8
Gloucester.....	1,769	169	9.6	615	94	15.3
Kent.....	755	—	—	239	2	0.8
Kings.....	296	8	2.7	222	5	2.3
Madawaska.....	955	41	4.3	284	45	15.8
Northumberland.....	1,045	249	23.8	373	53	14.2
Queens.....	279	—	—	127	—	—
Restigouche.....	1,027	249	24.2	364	123	33.8
St. John.....	1,435	1,285	89.5	982	565	57.5
Sunbury.....	196	—	—	69	—	—
Victoria.....	468	14	3.0	135	7	5.2
Westmorland.....	1,529	476	31.1	608	209	34.4
York.....	777	193	24.8	347	86	24.8
QUEBEC.....	83,857	13,080	15.6	32,799	10,802	32.9
Abitibi.....	2,428	45	1.9	378	37	9.8
Argenteuil.....	377	6	1.6	140	—	—
Arthabaska.....	893	14	1.6	286	47	16.4
Bagot.....	493	—	—	159	—	—
Beauce.....	1,542	14	0.9	445	27	6.1
Beauharnois.....	610	44	7.2	252	76	30.2
Bellechasse.....	713	—	—	226	19	8.4
Berthier.....	526	—	—	222	5	2.3
Bonaventure.....	1,202	—	—	366	—	—
Brome.....	228	—	—	126	—	—
Chambly.....	431	49	11.4	194	17	8.8
Champlain.....	1,838	18	1.0	474	24	5.1
Charlevoix.....	730	1	0.1	250	43	17.2
Châteauguay.....	285	22	7.7	139	9	6.5
Chicoutimi.....	2,848	72	2.5	735	192	26.1

TABLE 53—PERCENTAGE OF HOSPITALIZATION OF LIVE BIRTHS AND TOTAL DEATHS BY PLACE OF OCCURRENCE IN CANADA BY PROVINCES AND COUNTIES OR CENSUS DIVISIONS, 1940.—Continued.

Provinces and counties or census divisions.	Total Live Births	Live Births in Institutions		Total Deaths	Deaths in Institutions	
		Number	Per cent of total		Number	Per cent of total
QUEBEC — Continued						
Compton.....	518	—	—	178	—	—
Deux Montagnes.....	342	—	—	145	—	—
Dorchester.....	918	—	—	273	—	—
Drummond.....	1,214	63	5.2	287	48	16.7
Frontenac.....	915	—	—	177	5	2.8
Gaspé.....	1,693	18	1.1	532	76	14.3
Hull.....	1,782	196	11.0	669	211	31.5
Huntingdon.....	237	—	—	139	—	—
Iberville.....	254	—	—	76	—	—
Joliette.....	848	15	1.8	352	87	24.7
Kamouraska.....	751	—	—	238	4	1.7
Labelle.....	810	—	—	178	9	5.1
Lac St-Jean.....	2,568	1	(1)	594	51	8.6
Laprairie.....	284	—	—	135	.9	6.7
L'Assomption.....	414	—	—	172	11	6.4
Lévis.....	835	64	7.7	405	129	31.9
L'Islet.....	593	—	—	176	—	—
Lotbinière.....	828	—	—	221	—	—
Maskinongé.....	499	—	—	122	6	4.9
Matane.....	1,909	23	1.2	408	21	5.1
Mégantic.....	1,222	11	0.9	464	117	25.2
Missisquoi.....	461	32	6.9	222	20	9.0
Montcalm.....	385	—	—	152	—	—
Montmagny.....	617	—	—	206	3	1.5
Montmorency.....	510	1	0.2	177	11	6.2
Montreal and Jesus Islands.....	22,090	9,501	43.0	12,180	6,405	52.6
Napierville.....	218	—	—	73	—	—
Nicolet.....	815	2	0.2	318	40	12.6
Papineau.....	682	19	2.8	237	29	12.2
Pontiac.....	404	39	9.7	187	14	7.5
Portneuf.....	982	—	—	341	—	—
Quebec.....	5,378	1,777	33.0	2,619	1,525	58.2
Richelieu.....	541	7	1.3	223	14	6.3
Richmond.....	707	9	1.3	231	14	6.1
Rimouski.....	1,525	27	1.8	478	173	36.2
Rouville.....	322	—	—	133	17	12.8
St-Hyacinthe.....	801	84	10.5	384	167	43.5
St-Jean.....	519	61	11.8	250	127	50.8
St-Maurice.....	2,203	205	9.3	800	303	37.9
Saguenay.....	993	36	3.6	281	48	17.1
Shefford.....	876	5	0.6	243	5	2.1
Sherbrooke.....	1,200	376	31.3	596	329	55.2
Soulanges.....	179	—	—	82	4	4.9
Stanstead.....	671	14	2.1	259	21	8.1
Témiscamingue.....	1,636	202	12.3	340	114	33.5
Témiscouata.....	1,928	6	0.3	555	97	17.5
Terrebonne.....	1,081	1	0.1	373	38	10.2
Vaudreuil.....	235	—	—	83	—	—
Verchères.....	344	—	—	126	4	3.2
Wolfe.....	579	—	—	152	—	—
Yamaska.....	397	—	—	165	—	—
ONTARIO		68,524	42,561	62.1	38,503	15,322
Addington.....	136	—	—	72	—	—
Algoma.....	1,083	616	56.9	429	163	38.0
Brant.....	998	759	76.1	636	268	42.1
Bruce.....	721	296	41.1	447	88	19.7
Carleton.....	4,098	3,221	78.6	2,210	1,184	53.6
Cochrane.....	2,416	1,106	45.8	487	224	46.0
Dufferin.....	250	102	40.8	183	34	18.6
Dundas.....	266	—	—	159	—	—

(1) Less than 0.1 per cent.

TABLE 53—PERCENTAGE OF HOSPITALIZATION OF LIVE BIRTHS AND TOTAL DEATHS BY PLACE OF OCCURRENCE IN CANADA BY PROVINCES AND COUNTIES OR CENSUS DIVISIONS, 1940.—Continued.

Provinces and counties or census divisions.	Total Live Births	Live Births in Institutions		Total Deaths	Deaths in Institutions	
		Number	Per cent of total		Number	Per cent of total
ONTARIO — Continued						
Durham.....	344	250	72.7	280	65	23.2
Elgin.....	803	532	66.3	532	152	28.6
Essex.....	3,353	1,864	55.6	1,322	518	39.2
Frontenac.....	1,047	815	77.8	830	491	59.2
Glengarry.....	287	1	0.3	168	8	4.8
Grenville.....	157	—	—	177	—	—
Grey.....	1,026	457	44.5	694	117	16.9
Haldimand.....	338	89	26.3	243	32	13.2
Haliburton.....	160	27	16.9	80	6	7.5
Halton.....	247	22	8.9	228	2	0.9
Hastings.....	1,366	649	47.5	657	181	27.5
Huron.....	769	358	46.6	572	106	18.5
Kenora.....	602	499	82.9	244	115	47.1
Kent.....	1,399	783	56.0	741	273	36.8
Lambton.....	1,008	605	60.0	631	156	24.7
Lanark.....	631	443	70.2	409	129	31.5
Leeds.....	756	363	48.0	547	223	40.8
Lennox.....	108	1	0.9	115	—	—
Lincoln.....	1,037	636	61.3	604	193	32.0
Manitoulin.....	263	56	21.3	121	3	2.5
Middlesex.....	2,275	1,790	78.7	1,718	854	49.7
Muskoka.....	387	91	23.5	255	92	36.1
Nipissing.....	1,099	344	31.3	393	192	48.9
Norfolk.....	715	349	48.8	368	91	24.7
Northumberland.....	455	163	35.8	389	68	17.5
Ontario.....	889	480	54.0	692	247	35.7
Oxford.....	1,036	658	63.5	670	268	40.0
Parry Sound.....	623	278	44.6	291	78	26.8
Peel.....	349	216	61.9	263	52	19.8
Perth.....	869	535	61.6	560	161	28.8
Peterborough.....	901	668	74.1	578	210	36.3
Prescott.....	678	97	14.3	270	50	18.5
Prince Edward.....	268	186	69.4	202	32	15.8
Rainy River.....	454	175	38.5	127	31	24.4
Renfrew.....	1,045	369	35.3	569	183	32.2
Russell.....	369	—	—	129	—	—
Simcoe.....	1,667	988	59.3	1,095	426	38.9
Stormont.....	1,067	526	49.3	454	178	39.2
Sudbury.....	2,633	1,127	42.8	614	250	40.7
Thunder Bay.....	1,528	1,329	87.0	644	399	62.0
Timiskaming.....	1,592	809	50.8	408	170	41.7
Victoria.....	457	277	60.6	350	107	30.6
Waterloo.....	1,682	1,057	62.8	957	360	37.6
Welland.....	1,576	989	62.8	819	295	36.0
Wellington.....	1,022	722	70.6	627	225	35.9
Wentworth.....	3,355	2,799	82.7	2,161	1,200	55.5
York.....	13,834	10,989	79.4	9,082	4,372	48.1
MANITOBA.....						
Division No. 1.....	670	370	55.2	159	32	20.1
Division No. 2.....	912	469	51.4	195	45	23.1
Division No. 3.....	403	78	19.4	166	24	14.5
Division No. 4.....	209	144	68.9	121	21	17.4
Division No. 5.....	452	131	29.0	254	19	7.5
Division No. 6.....	6,530	6,121	93.7	3,011	1,992	66.2
Division No. 7.....	543	337	62.1	428	231	54.0
Division No. 8.....	273	137	50.2	148	35	23.6
Division No. 9.....	449	308	68.6	383	203	53.0
Division No. 10.....	408	193	47.3	140	33	23.6
Division No. 11.....	516	296	57.4	174	33	19.0
Division No. 12.....	499	144	28.9	191	34	17.8

TABLE 53—PERCENTAGE OF HOSPITALIZATION OF LIVE BIRTHS AND TOTAL DEATHS BY PLACE OF OCCURRENCE IN CANADA BY PROVINCES AND COUNTIES OR CENSUS DIVISIONS, 1940.—Continued.

Provinces and counties or census divisions.	Total Live Births	Live Births in Institutions		Total Deaths	Deaths in Institutions	
		Number	Per cent of total		Number	Per cent of total
MANITOBA — Continued						
Division No. 13.....	784	487	62.1	233	116	49.8
Division No. 14.....	590	263	44.6	192	48	25.0
Division No. 15.....	302	115	38.1	88	24	27.3
Division No. 16.....	1,231	536	43.5	456	64	14.0
SASKATCHEWAN	19,322	11,361	58.8	6,477	2,960	45.7
Division No. 1.....	692	374	54.0	238	87	36.6
Division No. 2.....	593	194	32.7	275	120	43.6
Division No. 3.....	760	464	61.1	222	67	30.2
Division No. 4.....	383	311	81.2	140	71	50.7
Division No. 5.....	1,038	256	24.7	381	120	31.5
Division No. 6.....	2,157	1,603	74.3	901	559	62.0
Division No. 7.....	1,001	732	73.1	389	219	56.3
Division No. 8.....	819	592	72.3	249	126	50.6
Division No. 9.....	1,445	658	45.5	472	164	34.7
Division No. 10.....	999	385	38.5	221	68	30.8
Division No. 11.....	1,652	1,200	72.6	682	390	57.2
Division No. 12.....	526	344	65.4	188	51	27.1
Division No. 13.....	761	573	75.3	223	102	45.7
Division No. 14.....	1,682	983	58.4	413	170	41.2
Division No. 15.....	2,286	1,357	59.4	700	343	49.0
Division No. 16.....	1,189	562	47.3	370	165	44.6
Division No. 17.....	969	657	67.8	271	129	47.6
Division No. 18.....	370	116	31.4	142	9	6.3
ALBERTA	17,359	12,662	72.9	6,203	3,231	52.1
Division No. 1.....	541	368	68.0	205	92	44.9
Division No. 2.....	1,637	1,282	78.3	512	310	60.5
Division No. 3.....	303	157	51.8	87	40	46.0
Division No. 4.....	392	300	76.5	147	57	38.8
Division No. 5.....	185	149	80.5	86	29	33.7
Division No. 6.....	2,883	2,526	87.6	1,293	745	57.6
Division No. 7.....	748	653	87.3	247	139	56.3
Division No. 8.....	1,501	1,095	73.0	601	308	51.2
Division No. 9.....	452	296	65.5	157	50	31.8
Division No. 10.....	1,214	887	73.1	348	155	44.5
Division No. 11.....	3,602	3,108	86.3	1,407	910	64.7
Division No. 12.....	305	101	33.1	95	20	21.1
Division No. 13.....	959	543	56.6	264	97	36.7
Division No. 14.....	1,065	543	51.0	301	129	42.9
Division No. 15.....	463	178	38.4	131	40	30.5
Division No. 16.....	746	407	54.6	187	84	44.9
Division No. 17.....	363	69	19.0	135	26	19.3
BRITISH COLUMBIA	13,830	11,676	84.4	8,315	4,482	53.9
Division No. 1.....	418	291	69.6	159	92	57.9
Division No. 2.....	1,034	901	87.1	353	186	52.7
Division No. 3.....	1,074	903	84.1	431	226	52.4
Division No. 4.....	6,914	6,106	88.3	4,646	2,608	56.1
Division No. 5.....	2,409	2,184	90.7	1,662	917	55.2
Division No. 6.....	576	433	75.2	399	221	55.4
Division No. 7.....	251	185	73.7	114	45	39.5
Division No. 8.....	570	323	56.7	271	87	32.1
Division No. 9.....	361	164	45.4	224	68	30.4
Division No. 10.....	223	186	83.4	56	32	57.1

CHAPTER X

Communicable Diseases

Registration of diseases dangerous to the public health of a community in Canada, as in other countries, is compulsory although comparatively modern in its application. It is, however, impossible to secure compete accuracy in National Morbidity Statistics. There are a number of reasons for this, among the main causes of error being:

- (1) cases not visited by physicians;
- (2) cases not recognized, or incorrectly diagnosed;
- (3) cases not reported by physicians.

Of morbidity statistics, George C. Whipple¹ once said "that complete accuracy of securing records of morbidity under any law is impossible".

In Canada, infectious (communicable) diseases, dangerous to the national health, are reportable under provincial regulations and during the past five years there has been a very definite improvement in the reporting to the Provincial Epidemiological Services, but, as already pointed out, this does not begin to supply the complete picture of sickness throughout Canada as it is limited to a specific group of diseases only. See also Chapter VIII—Deaths.

Table 54 summarizes the fourteen principal communicable diseases in Canada, as reported by the provincial health departments to the Dominion Bureau of Statistics, from 1926 to 1940. The table shows:

- (a) the number of cases reported each year;
- (b) the number of deaths registered each year assigned to each cause;
- (c) the ratio of deaths to every 100 cases each year; and
- (d) the death rates per 100,000 population each year.

The figures reveal:

- (1) that the morbidity (number of cases) for the so-called minor infections, measles, rubella (german measles), chickenpox, mumps, scarlet fever and whooping cough is still extremely high; that, although during individual years these diseases were apparently epidemic, the fatality rates (except for whooping cough in 1926 and 1927 when the rates were 17.8 and 15.2 per 100 cases) have been quite low and have shown a tendency towards reduction, a fact which is also true of the crude death rates per 100,000 population;

- (2) that, except for the first six years, the morbidity for smallpox is almost negligible; that the years indicated reflect isolated outbreaks of the disease, while the low fatality rate suggests a particularly mild type of infection and that, during the two years 1934 and 1935, the high fatality rate indicates the presence of a particularly malignant type of the infection;
- (3) that the morbidity from diphtheria shows a fairly continual decrease in the number of deaths, in the fatality rate per 100 cases and in the death rate per 100,000 population;
- (4) that acute poliomyelitis and polioencephalitis recorded a number of variations during the fifteen years, and that the morbidity rate was particularly high in 1937 when 3,880 cases with 200 deaths gave a fatality rate of only 5.2 as compared with the range of rates from 10.0 in 1936 to 82.3 in 1926. The fact that the death rate remained fairly low, ranging from 0.4 in 1940 to 2.2 in 1931, would seem to indicate the presence of a mild epidemic in 1937 or a very definite under-reporting for the other years;
- (5) that the figures for acute infectious encephalitis reveal a definite under-reporting of cases, particularly in the earlier years, which would account for the high fatality rates, because the death rates per 100,000 population fail to reveal the presence of an epidemic in any particular year, with the death rates ranging from 0.4 in 1934, 1938 and 1939 to 1.2 from 1927 to 1929 respectively;
- (6) that a similar situation prevails in the case of cerebrospinal meningitis;
- (7) that influenza was epidemic in 1937 when there were 63,147 cases reported, but the fatality rate of 8.3 for that year was extremely low, and the death rate of 47.4 was fairly high, which also indicates an under-reporting of cases in the other years. A similar situation is indicated in 1929 when the death rate of 69.7 was the highest for the period, yet the fatality rate was only 53.1 per 100 cases, the death rate evidently indicating the presence of a virulent type of influenza;
- (8) that the reported cases of tuberculosis increased steadily during the fifteen years, while the number of deaths, the fatality rates

¹ Whipple, Geo. C.—Vital Statistics, page 121.

and the death rates steadily decreased; this might indicate an improvement in reporting tuberculosis infections or that the present facilities established by the provincial health departments for the control of this disease are having an appreciable effect in saving persons suffering from tubercular infections; and

- (9) that typhoid and paratyphoid fever during the review period shows a tendency to fluctuate slightly except for one year (1927) when there were 8,108 cases reported with a low fatality rate of 18.7 and a high mortality rate during the fifteen years of 11.6. This is rather difficult to explain but it would appear to reveal the presence of an epidemic of even greater proportions than the reported cases indicate.

Generally speaking, the table as a whole shows an improvement in the reporting of communicable diseases to the provincial authorities, but the variations which are apparent from the figures would appear to indicate that there is still plenty of room for improvement. These fourteen diseases, according to the figures given in the table, caused sickness and distress to 2,119,695 Canadians during the fifteen years, an annual average of 141,313.

Although the death rates from any one of these diseases have not been particularly high over the years, nevertheless, the morbidity figures in the table demonstrate the need for an extension of Canadian medical research and laboratory facilities. Through experimentation and the application of epidemiological techniques much has been accom-

plished; in the words of an eminent Canadian laboratory director²:

"The mortality rates of children under 5 years have been reduced by three-quarters. Diphtheria has practically vanished, scarlet fever has become benign; tuberculosis has fallen from first place as a cause of death to seventh; typhoid fever from sixth place to thirtieth; cholera, malaria, yellow fever, plague, typhus fever, smallpox, and rabies, are of course scourges not only of the past, but—as we are prone to assume in our unguarded moments—scourges of the dim and distant past, which cannot fall again upon us. We may justly reflect with pride upon the fact that in this brief generation, covered by the life-time of us all, the application in the field of the discoveries of the pioneers has made it possible for the average baby of today to expect a 10-year longer life-span than we ourselves had a right to anticipate at our birth."

But what of the so-called minor infections which all too often leave behind them very serious after-effects detrimental to the health and general well-being of the individual, particularly in the case of children? Much has been accomplished through the application of scientific knowledge in the control of smallpox, diphtheria, and typhoid fever—yet even for these diseases the figures in Table 54 reveal that there is a need for a tightening-up in the immunization programme of the country—for in this field there are known specific combatting agents.

² Dolman, C. E. — "The Accomplishments and Objectives of Preventive Medicine", British Columbia Board of Health Bulletin, Vol. 9, page 84.

TABLE 54A—CASES, DEATHS, DEATHS PER 100 CASES AND RATES PER 100,000 POPULATION FOR THE PRINCIPAL COMMUNICABLE DISEASES IN CANADA, 1926-40.

Causes	NUMBER OF CASES						NUMBER OF DEATHS							
	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
Measles.....	44,388	28,151	27,733	42,134	21,592	25,666	53,602	13,670	29,924	55,526	57,413	26,387	44,477	45,851
Rubella.....	4,990	5,492	765	932	4,489	1,384	1,221	834	1,478	25,029	69,382	3,375	1,619	4,621
Chickenpox.....	13,042	13,696	16,350	17,944	20,355	19,255	17,891	23,753	23,471	27,595	25,435	24,266	27,058	25,325
Smallpox.....	1,535	2,845	3,337	1,952	1,292	865	347	100	17	1,20	62	59	120	32,758
Mumps.....	7,633	8,428	23,581	12,053	9,464	11,156	12,421	9,527	11,696	22,822	29,952	20,391	8,415	5,844
Scarlet fever.....	14,240	15,593	14,552	15,877	17,016	12,783	9,659	10,161	16,332	17,682	21,230	16,991	15,179	13,498
Diphtheria.....	7,234	8,501	8,790	8,877	7,534	5,913	3,912	2,407	1,995	2,043	3,113	3,682	2,897	13,712
Whooping cough.....	6,969	6,791	6,644	10,536	11,747	9,174	12,058	14,812	19,571	18,164	16,206	17,217	16,034	2,335
Acute poliomyelitis and polio- encephalitis.....	113	610	788	753	1,030	1,341	956	247	513	361	970	3,880	577	19,878
Acute infectious encephalitis.....	9	24	24	46	33	24	31	32	24	21	25	21	56	359
Cerebrospinal meningitis.....	112	129	159	306	285	172	116	136	112	103	134	156	179	40
Influenza.....	3,492	1,259	15,550	13,149	2,364	3,276	13,115	8,167	1,908	6,001	6,737	63,147	2,278	162
Tuberculosis.....	5,586	5,283	5,531	5,744	6,528	7,191	8,835	8,628	8,039	8,609	8,443	9,172	18,395	13,704
Typhoid and paratyphoid fever.....	1,832	8,108	2,247	1,886	2,254	2,938	2,473	2,348	2,312	1,914	1,722	2,347	1,837	10,226
														1,570
Measles.....	892	616	337	619	3	521	167	330	170	188	490	376	837	250
Rubella.....	15	16	5	21	2	18	27	2	5	9	30	30	8	197
Chickenpox.....	26	24	30	7	8	2	3	17	29	28	27	30	17	—
Smallpox.....	33	11	7	31	25	17	6	3	3	4	2	2	2	168
Mumps.....	39	33	45	41	440	397	253	197	157	226	242	244	269	26
Scarlet fever.....	363	411	346	916	980	737	646	398	239	232	264	258	369	1
Diphtheria.....	913	1,012	1,030	727	755	964	748	555	552	875	892	594	763	—
Whooping cough.....	1,242	1,242	1,242	1,242	1,242	1,242	1,242	1,242	1,242	1,242	1,242	1,242	1,242	1,242
Acute poliomyelitis and polio- encephalitis.....	93	193	182	152	215	223	164	73	84	64	97	200	83	56
Acute infectious encephalitis.....	99	120	120	118	88	77	76	58	47	54	52	50	45	48
Cerebrospinal meningitis.....	207	219	235	341	294	225	139	109	84	112	103	93	86	63
Influenza.....	4,987	3,317	4,603	6,979	2,383	3,217	4,236	4,019	2,004	3,392	3,113	5,260	4,362	100
Tuberculosis.....	8,116	7,916	7,960	8,164	7,166	7,467	8,451	6,939	6,431	6,597	6,763	6,659	6,126	2,789
Typhoid and paratyphoid fever.....	465	1,112	467	1,112	1,112	1,112	1,112	1,112	1,112	1,112	1,112	1,112	5,977	5,789
														224

(1) Not tabulated separately.

TABLE 54B—CASES, DEATHS, DEATHS PER 100 CASES AND RATES PER 100,000 POPULATION FOR THE PRINCIPAL COMMUNICABLE DISEASES IN CANADA, 1926-40.—Continued.

Causes	DEATHS PER 100 CASES										DEATH RATES PER 100,000 POPULATION					
	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	
Measles.....	2.0	2.2	1.2	1.5	2.4	0.7	0.6	1.2	0.6	0.6	0.7	1.5	0.9	0.4	0.4	0.4
Rubella.....	0.3	0.3	0.7	0.3	(2)	0.1	0.2	—	0.3	0.1	0.1	0.2	—	0.1	0.1	0.1
Chickenpox.....	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1
Smallpox.....	2.1	0.4	0.2	0.4	0.2	0.3	4.9	6.0	17.6	11.8	3.2	3.4	2.5	0.5	—	—
Mumps.....	0.5	0.4	0.2	0.3	0.3	(1)	(1)	(1)	(1)	(1)	0.1	0.2	0.2	0.2	0.1	0.1
Scarlet fever.....	2.5	2.6	2.4	2.8	2.3	2.0	2.0	1.5	1.4	1.4	1.2	1.6	1.2	1.1	0.9	0.9
Diphtheria.....	12.6	11.9	10.4	11.0	9.8	10.9	10.2	9.9	10.4	13.2	12.6	11.9	11.8	11.6	9.1	9.1
Whooping cough.....	17.8	15.2	10.9	7.2	8.2	4.6	4.6	3.7	4.5	4.9	3.7	4.4	3.1	3.1	3.2	3.2
Acute poliomyelitis and polio- encephalitis.....	82.3	31.6	23.1	20.2	20.9	16.6	17.2	29.6	16.4	17.7	10.0	5.2	14.4	15.6	25.0	25.0
Acute infectious encephalitis.....	1100.0	500.0	256.5	266.7	320.8	181.3	195.8	257.1	208.0	238.1	80.4	117.5	196.9	—	—	—
Cerebrospinal meningitis.....	184.8	169.8	147.8	111.4	103.2	130.8	119.8	80.1	75.0	108.7	76.9	59.6	48.0	51.9	26.7	26.7
Influenza.....	142.8	263.5	29.6	53.1	100.8	98.2	32.3	49.2	105.0	56.5	46.2	8.3	103.7	21.5	20.4	20.4
Tuberculosis.....	145.3	149.8	143.9	138.6	125.1	105.9	81.1	80.4	76.0	78.6	79.0	66.8	58.7	56.6	56.6	56.6
Typhoid and paratyphoid fever.....	25.4	13.7	20.8	24.8	20.0	14.3	13.7	12.4	12.7	14.3	14.9	14.1	11.3	13.7	14.3	14.3
Measles.....	9.5	6.4	3.4	6.2	5.1	1.6	3.1	1.6	1.7	4.5	3.4	7.5	2.2	1.7	1.5	1.5
Rubella.....	0.2	0.2	0.1	0.3	(2)	0.2	0.2	0.3	0.3	0.1	0.3	0.2	0.2	0.2	0.2	0.2
Chickenpox.....	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	(2)	(2)	(2)	(2)	(2)	—	—
Smallpox.....	0.3	0.1	0.3	0.3	0.3	0.2	0.2	0.1	0.1	(1)	(1)	(1)	(1)	(1)	0.2	0.2
Mumps.....	0.4	0.3	0.5	0.3	0.2	0.4	3.9	2.4	1.9	1.5	2.1	2.2	2.4	1.8	1.5	1.1
Scarlet fever.....	3.8	4.3	3.5	4.4	3.9	2.4	1.9	1.5	2.1	2.2	2.1	2.4	2.3	3.3	3.0	1.9
Diphtheria.....	9.7	10.5	9.3	9.8	7.2	6.2	3.8	2.2	2.2	2.1	2.4	2.3	3.3	3.9	3.0	1.9
Whooping cough.....	10.7	7.4	7.5	9.5	7.2	5.3	5.2	8.1	8.2	5.2	5.4	6.9	4.4	4.8	5.5	5.5
Acute poliomyelitis and polio- encephalitis.....	13.2	10.7	7.4	2.1	2.1	2.2	1.6	0.7	0.8	0.6	0.9	1.8	0.7	0.5	0.4	0.4
Acute infectious encephalitis.....	1.0	2.0	1.9	1.5	1.2	0.9	0.7	0.7	0.5	0.4	0.5	0.5	0.4	0.4	0.6	0.6
Cerebrospinal meningitis.....	1.0	1.2	1.2	1.2	3.4	2.9	2.2	1.3	1.0	0.8	1.0	0.9	0.8	0.7	0.9	0.9
Influenza.....	2.2	2.3	2.4	2.4	2.3	2.4	2.9	31.0	40.4	37.7	18.5	31.1	28.3	47.4	21.1	24.5
Tuberculosis.....	52.8	34.5	46.9	69.7	23.4	69.7	68.3	65.1	59.5	60.4	61.4	54.7	52.9	50.9	35.0	35.0
Typhoid and paratyphoid fever.....	86.0	82.3	81.0	4.8	4.7	4.4	3.2	2.7	2.7	2.5	2.3	3.0	1.8	1.6	2.0	2.0

(1) Not tabulated separately.

(2) Less than one-tenth of one per cent.

(3) Less than 0.1 per 100,000 population.

CHAPTER XI

State of Health of the People of Canada in 1941*

The year 1941 might well be called an epidemic year in Canada. The cases of simple measles reported were almost double the annual average over the past five years. An epidemic of rubella reached alarming proportions although it is true that the mortality was low. The incidence of mumps was high, particularly in Quebec and Ontario, which reported 77 per cent of all cases.

The Prairie Provinces of Manitoba and Saskatchewan experienced an epidemic of two virus diseases, poliomyelitis and encephalomyelitis, during the summer and fall. The epidemic of encephalomyelitis was also pronounced in the adjoining states of Minnesota and North Dakota. The type of encephalomyelitis was established as equine.

The epidemic first started with an outbreak of poliomyelitis; some of the cases of poliomyelitis then began to appear associated with a disease which was eventually established as the Western Equine type of encephalitis, more generally known as encephalomyelitis. The mortality rate for poliomyelitis was 0.6 which is an exceedingly low rate for an epidemic of such proportions. The mortality rate, however, for encephalitis was somewhat higher with a death rate of 1.6. New Brunswick also experienced a severe epidemic of poliomyelitis in 1941.

In certain parts of Canada, particularly in Nova Scotia, the incidence of diphtheria cases was marked and in Ontario there was a recrudescence. Good epidemiological work on the part of the provincial authorities prevented a high mortality, but the case rate and the death rate for diphtheria in Canada are much too high. This demonstrates the need for an extensive national campaign for the administration of toxoid.

The general reduction in morbidity and mortality among other communicable diseases during the year indicates the efficacy of the public health departments, particularly at such a time when increased movement of population to meet the needs of national defence has increased communicable disease hazards. The abnormal concentration of population in some areas has also increased the hazard of communicable diseases which, if uncontrolled, naturally decreases the effectiveness of the efforts to speed up production. A low incidence of such deaths as typhoid fever and smallpox indicates the effectiveness of control measures. The increase in the infant mortality rate is disappointing but the further decrease in the maternal death rate would seem to

show that the improved techniques in pre-natal care are bearing fruit.

The increase in the deaths from heart disease, diseases of the arteries and kidneys is to be expected in an ageing population.

While the increase in tuberculosis is fairly general throughout Canada, one province, British Columbia, records the lowest rate on record for that province and it is hoped that the jump in the rate for Canada for 1941 will be a single peak year.

POPULATION. — The population of Canada, exclusive of Yukon and the Northwest Territories, was 11,489,713 according to the final results of the Census as of June 1, 1941.

BIRTHS. — The number of births in 1941 was 255,317, with a birth rate of 22.2, which is slightly higher than for the preceding year, when the rate was 21.5. New Brunswick and its neighbouring province, Quebec, led the rest of the provinces by a wide margin with a rate of 26.8. British Columbia had the lowest, a rate of 18.4.

DEATHS. — The number of deaths in 1941 for all ages and from all causes was 114,639 compared with 110,927 in 1940. The death rate remains about the same as last year. In 1941 it was 10.0; and in 1940 it was 9.8. Nova Scotia had the highest death rate, 12.0, and Saskatchewan the lowest, 7.2. In comparing the provincial death rates, however, it is necessary to keep in mind that the age composition is much older in Prince Edward Island and Nova Scotia than in Saskatchewan, and, therefore, a higher death rate is expected in the former than in the latter.

INFANT MORTALITY. — Fifteen thousand two hundred and thirty-six children under 1 year of age died in 1941 in comparison with 13,783 in 1940. The death rate for infants in 1941 was 60, while in 1940 it was 56. This shows an increase for 1941 over 1940; however, a most encouraging general decrease is observed from year to year. Prince Edward Island had the highest rate, 80; New Brunswick and Quebec were next with 76; British Columbia had the lowest rate with 37.

MATERNAL MORTALITY. — The definite, continuous improvement taking place in respect of maternal mortality which was noted last year was again reflected in the 1941 death rate. The number

* Based on final figures, exclusive of Yukon and Northwest Territories.

of deaths this year was 901, for 1940 it was 978. The death rate in 1941 was 3.5 compared with 4.0 in 1940. The average rate from 1926 to 1930 was 5.7; from 1931 to 1935 it was 5.1 and from 1936 to 1940 it was 4.6. Quebec had the highest rate this year, 4.3, while British Columbia had the lowest, 2.7.

TEN LEADING CAUSES OF DEATH. — The following table gives the number of deaths in Canada from the 10 leading causes of death for the year 1941, placed in order of rating indicating:

- (a) the rating for each year;
- (b) the number of deaths;
- (c) the ratio of each cause to the total deaths; and
- (d) the crude death rate per 100,000 of population.

TEN LEADING CAUSES OF DEATH IN CANADA¹, 1941.

Cause of death	Rating	No. of deaths	Per cent of total deaths	Rate per 100,000 population
Diseases of the heart	1	26,601	23.2	231.5
Cancer (all forms)	2	13,417	11.7	116.8
Violent or Accidental deaths ..	3	8,443	7.4	73.5
Nephritis	4	7,399	6.5	64.4
Diseases of the arteries	5	6,733	5.9	58.6
Diseases peculiar to the first year of life	6	6,252	5.5	54.4
Tuberculosis (all forms)	7	6,072	5.3	52.8
Pneumonia (all forms)	8	5,955	5.2	51.8
Intracranial lesions of vascular origin	9	4,567	4.0	39.7
Influenza (all forms)	10	2,411	2.1	21.0

¹ Exclusive of Yukon and the Northwest Territories.

CARDIO - VASCULAR - RENAL DISEASES. — Each year we have to note the continuous increasing toll of life exacted by this triad of diseases.

(A) Heart. Diseases of the heart claimed 26,601 lives in 1941; as compared with 20,278 in 1940. The death rate for 1941 was 231.5; for 1940, 178.3. The average death rate from heart disease for the five years 1926 to 1930 was 126.5; for the five years 1931 to 1935 it was 119.5; and for the five years 1936 to 1940 it was 120.1. Ontario had the highest death rate from heart diseases, 308.3, with British Columbia a close second with 290.8—this is to be expected as Ontario is the largest industrial province and British Columbia has a relatively high age composition. Saskatchewan had the lowest rate for this disease, 158.0.

The total deaths for diseases of the heart during 1941 have been influenced to a large extent by the addition of some 4,467 deaths attributed to intracranial lesions of vascular origin associated with arteriosclerosis, formerly classified under diseases of the arteries. This change in classification has been

brought about by the Fifth Revision of the International List of Causes of Death; even with the addition of deaths associated with arteriosclerosis the increase in deaths from diseases of the heart is still maintained.

(B) Arteries. Arterial disease mortality decreased with 6,733 deaths as compared with 11,742 in 1940. The death rate for 1941 was 58.6; in 1940 it was 103.3. The average death rate for the five years 1926 to 1930 was 57.5, while for the five years 1931 to 1935 it was 68.8, and for the five years 1936 to 1940 it was 94.1. The decrease is almost entirely due to the change in classification of arteriosclerosis when associated with other causes as called for by the 1938 Revision of the International List of Causes of Death. Ontario had the highest death rate, 82.0 and Saskatchewan the lowest, 33.3.

(C) Kidneys. There was an increase in the number of deaths from nephritis in 1941, when the number was 7,399, as compared with 6,835 in 1940. The death rate was 64.4 and in 1940 it was 60.1. The average death rate for the five years 1926 to 1930 was 55.7; whereas, for the five years 1931 to 1935 it was 52.8 and for the five years 1936 to 1940 it was 58.6.

INTRACRANIAL LESIONS OF VASCULAR ORIGIN. — The number of deaths caused by cerebral haemorrhage, cerebral embolism and thrombosis would seem to indicate a sharp rise in both the number of deaths and the death rate for 1941; however, the increase is almost entirely due to the transfer of deaths under this heading, when associated with arteriosclerosis, from diseases of the arteries.

In 1941 there were 4,567; in 1940, 2,296. The death rate is rising; in 1941 it was 39.7 and in 1940, 20.2. The average death rate for the five years 1926 to 1930 was 41.9, whereas for the five years 1931 to 1935 it was 28.8, and for the five years 1936 to 1940 it was 19.0.

Prince Edward Island had the highest death rate, 57.9, followed by Nova Scotia with 52.6 and New Brunswick 50.9. Manitoba had the lowest rate with 30.4. These diseases are more prevalent in the provinces which have an older age composition.

CANCER. — Each year there has been an increase in the number of deaths reported from cancer, although it would appear that the peak in the rate may be in sight, there being a decrease of 0.4 in 1941 over 1940 as against rises of 5.0 and 6.0 of a few years ago. In 1941 there were 13,417 and in 1940, 13,322. The death rate is lower, being 116.8. In 1940 it was 117.2. During the five-year period of 1926 to 1930

the average rate was 85.8, and during the five-year period 1931 to 1935 the average rate was 97.6, and during the five-year period 1936 to 1940 it was 109.7. British Columbia had the highest rate again this year, 146.0, and Alberta displaced Saskatchewan as the lowest, with 89.4. This is to be expected as the former province has a relatively high age composition, while the age composition of the latter province is relatively low.

COMMUNICABLE DISEASES. — Communicable diseases reported, exclusive of syphilis, gonorrhoea and other minor communicable diseases, amount to 255,533. The number of deaths attributable to the communicable diseases was 16,604. This is an increase of 93,959 cases over the 161,574 cases reported in 1940, but an increase of only 159 in the number of deaths which numbered 16,445 in 1940. In 1939 there were 146,709 cases and 18,312 deaths, in 1938 there were 118,095 cases and 17,919 deaths. The death rate per 1,000 population of 1.4 was the same as in 1940 with 1.6 in 1939 and 1938. The ratio of deaths per 100 cases was 6.5 compared with 10.2 in 1940 and 12.5 in 1939 and 15.2 in 1938. It may, therefore, again be noticed that although there was an increase in the number of cases in 1941, the ratio of deaths per 100 cases was lower, while there was a slight increase in the death rate per 1,000 population.

MEASLES. — Each year this disease leads the communicable diseases in prevalence. In 1941 there were 81,051 cases, and in 1940 there were 45,851. The median for the five years 1936 to 1940 was 45,851. The number of deaths in 1941 was 325 and the death rate 2.8. This is a considerable increase over the death rate of 1.5 in 1940 and 1.7 in 1939 and 2.2 in 1938. The average death rate for the five years 1936 to 1940 was 3.3. The deaths per 100 cases in 1941 were 0.4 as compared with 0.4 in 1940. Nova Scotia had the highest death rate, 11.2 and Ontario the lowest, 1.1.

RUBELLA (German Measles).—There were 56,777 cases of this disease reported in 1941 and 8 deaths. The median for the five years 1936 to 1940 was 27,058 cases and an average of 8 deaths. In 1940 there were 4,621 cases with only 1 death. In 1939 there were 1,799 cases with no deaths, while in 1938 there were 1,619 cases with 3 deaths.

The incidence of Rubella reached epidemic proportions in 1941, but the fatality rate was extremely low.

CHICKENPOX. — There were 27,867 cases of this disease compared with 32,758 in 1940. The median for the five years 1936 to 1940 was 25,435. The

number of deaths for 1941 was 19 as compared with 26 in 1940. The death rate in 1941 was 0.2, and in 1940 it was 0.2.

SMALLPOX. — There were 26 cases of this disease in 1941 and no deaths. Of the total cases 25 occurred in Saskatchewan and 1 in Alberta. The median prevalence for the five years 1936 to 1940 was 62 cases and the average was 2 deaths. The national smallpox experience over the past 20 years indicates that except for sporadic outbreaks this disease has now been brought under control by the extensive vaccination programs that have been carried out in all provinces.

MUMPS. — In 1941 there were 22,936 cases of mumps reported, as compared with 13,498 in 1940, 10,018 of which occurred in Quebec and 7,634 in Ontario. There were 19 deaths and the death rate was 0.2, as compared with 18 deaths and a death rate of 0.2 in 1940. The median prevalence of this disease for the five-year period 1936 to 1940 was 13,498.

SCARLET FEVER. — There were 16,966 cases of this disease reported in 1941 with 117 deaths and a death rate of 1.0. In 1940 there were 13,712 cases with 125 deaths and a death rate of 1.1. The median prevalence for the five-year period 1936 to 1940 was 16,735, and an average of 201 deaths, so that this disease was above its median prevalence in cases and below the average in deaths. The death rate in 1940 was 1.1 and the average death rate for the five years 1936 to 1940 was 1.8. In 1941 Nova Scotia had the highest death rate, 1.6. British Columbia was lowest with a death rate of 0.2.

The incidence of scarlet fever in Canada is far too high, and illustrates the need of an immunizing agent. Every effort should be made to take full advantage of the means at our disposal for the control of this disease.

DIPHTHERIA. — There was an increase in 1941 in both cases and deaths. The number of cases was 2,866 and deaths 240. The death rate was 2.1. In 1940 there were 2,335 cases and 213 deaths with a death rate of 1.9. The median for the five years 1936 to 1940 was 2,897 cases and the average for deaths was 322. Nova Scotia had the highest death rate, 9.2; and British Columbia had the lowest death rate, 0.2.

WHOOPING COUGH. — There were 16,647 cases of this disease in 1941 and 437 deaths. The death rate was 3.8. The median prevalence of cases for the five years 1936-40 was 17,217, and the average prevalence of deaths was 604. The death rate in 1940 was 5.5. The average death rate for the five years

1936-40 was 5.4. Prince Edward Island's death rate, 7.4, was the highest in 1941 and British Columbia's the lowest, 1.0.

ACUTE POLIOMYELITIS AND POLIOENCEPHALITIS. — The number of cases in 1941 was 1,874 with 68 deaths. The death rate was 0.6. This was an epidemic year as the median for the five years 1936 to 1940 was 577 cases and the average for deaths was 97. The death rate in 1940 was 0.4, in 1939 it was 0.5 and in 1938 it was 0.7. The average death rate for the five years 1936 to 1940 was 0.9. The death rate per 100 cases was 3.6, whereas in 1940 it was 25.0.

CEREBROSPINAL MENINGITIS. — There were 1,464 cases of this disease reported in 1941, with 206 deaths, and the death rate was 1.8. In 1940 there were 374 cases and 100 deaths and the death rate was 0.9.

ENCEPHALITIS LETHARGICA.¹ — There were 1,130 cases of this disease reported in 1941 with 179 deaths and the death rate was 1.6. In 1940 there were 32 cases reported and 63 deaths and the death rate was 0.6.

INFLUENZA. — Although this disease continues to be very badly reported, it is possible from the number of cases reported to recognize the trend. In 1941 there were 9,656 cases, in 1940 there were 13,704. In 1941 there were 2,411 deaths, in 1940 there were 2,789. The deaths together with the cases reported indicate that the incidence was much lower in 1941 than in 1940. The death rate for 1941 was 21.0 and for 1940 it was 24.5. The average death rate for the five years 1936 to 1940 was 31.2. Quebec had the highest death rate, 30.8, and Ontario the lowest, 12.3.

PNEUMONIA. — There was another encouraging reduction in the number of deaths from this disease. There were 5,955 deaths in 1941 compared with 6,132 in 1940. The death rate in 1941 was 51.8 and in 1940 it was 53.9. The average death rate for the five years 1936 to 1940 inclusive was 62.9. The consistent decreases in the death rate indicate that the new treatment for pneumonia is having beneficial results. New Brunswick had the highest death rate, 97.3 and Saskatchewan again had the lowest, 39.1.

TUBERCULOSIS. — This disease shows an upward trend this year, the death rate being 52.8. In 1940 it was 50.9, in 1939 it was 52.9 and in 1938 it was 54.7. The average death rate for the five years 1926 to 1930 was 81.7, whereas for the five years 1931 to 1935 it was 65.3 and for the five years 1936 to 1940 it was 55.9. Quebec again had the highest death rate, 80.5 and Ontario the lowest, 29.1.

SYPHILIS. — There were 913 deaths reported with a death rate of 7.9 in comparison with 487 deaths and a death rate of 4.3 in 1940. The average rate for the five years 1926 to 1930 was 4.0, whereas for the five years 1931 to 1935 it was 4.5 and for the five years 1936 to 1940 it was 4.8. These figures do not represent the actual mortality, as many deaths from syphilis are not reported as such. However, the large increase in 1941 indicates that the new rules of classification of causes of death called for by the 1938 Revision of the International List of Causes of Death are bringing about a marked improvement in this direction. The following diseases formerly shown under other titles are now included in title 30, Syphilis:

- a. Locomotor ataxia (tabes dorsalis);
- b. General paralysis of the insane;
- c. Aneurysm of the aorta.

DIARRHOEA AND ENTERITIS. — There was an increase in the mortality of these diseases in 1941 when the number of deaths was 2,319 and the death rate 20.2. In 1940 there were 1,891 deaths and the death rate was 16.6. The average death rate for the five years 1936 to 1940 was 24.0. Quebec had the highest death rate, 41.1; British Columbia had the lowest, 4.6.

TYPHOID AND PARATYPHOID. — There were 1,548 cases and 165 deaths in 1941. The death rate was 1.4 and the death rate per 100 cases was 10.0. The average death rate for the five years 1936 to 1940 was 2.1. New Brunswick had the highest death rate, 3.5. Prince Edward Island had the lowest with no deaths. The median for the five years 1936 to 1940 was 1,722 cases and an average of 239 for deaths, so that this year the morbidity and mortality are well below the median. In 1941 the number of deaths and the death rate were the lowest on record.

UNDULANT FEVER. — There were 168 cases of this disease reported in 1941 with 4 deaths and a death rate of 0.03. The median prevalence of this disease as reported for the five years 1936 to 1940 was 161. The average death rate for the five years 1936 to 1940 was 0.1. Quebec had 1 death, Ontario 2 and British Columbia 1.

ROCKY MOUNTAIN FEVER. — In 1941 there were no cases and no deaths reported.

ANTHRAX. — There was 1 case reported from Saskatchewan.

PSITTACOSIS. — There were 21 cases and 2 deaths reported in Ontario.

¹ Encephalomyelitis is included under this title by the International List of Causes of Death. In 1941 there were 1,109 cases reported with 23 deaths and a death rate of 0.2.

TRACHOMA.—The decrease in the number of cases of this disease was very marked during the year. There were 50 cases reported in 1941 with no deaths, and in 1940 there were 157 cases.

All the 1941 cases were reported from the four western provinces: British Columbia 36 cases, Saskatchewan 9, Manitoba 4 and Alberta 1.

VIOLENT DEATHS.—In 1941 there were 8,443 violent deaths with a death rate of 73.5 as compared with 7,418 deaths and a death rate of 65.2 in 1940. There were 7,205 deaths with a death rate of 64.4 in 1938. The average death rate for the five years 1936 to 1940 was 65.4. British Columbia had the highest death rate, 97.3, and Saskatchewan the lowest, 51.7.

VIOLENT OR ACCIDENTAL DEATHS.—There were 7,417 accidental deaths in 1941, with a rate of 64.6 as compared with 6,322 deaths and a death rate

of 55.6 in 1940. The average death rate for the five years 1936 to 1940 was 55.6.

Included in the accidental deaths were 1,851 due to automobile accidents, which gives a death rate of 16.1. The number of deaths from automobile accidents in 1940 was 1,723 with a death rate of 15.2. The death rate for automobile accidents for the five years 1936 to 1940 was 13.9. Ontario had the highest rate, 22.0, and Saskatchewan had the lowest, 5.0.

SUICIDES.—There was another drop in the number of suicides in 1941 when the number was 896 as compared with 948 in 1940. The death rate in 1941 was 7.8 and in 1940 it was 8.3 During the five years 1936 to 1940 the average death rate was 8.5 British Columbia had the highest death rate in 1941, 14.1; Quebec and Prince Edward Island had the lowest rate, 4.2.

CHAPTER XII

Morbidity

Introduction

This study endeavors to estimate primarily the number of sickness days which might incapacitate the people of Canada at all ages from their usual vocations and avocations.

The bases of the study are (1) rates of sickness by age-groups from the Austrian sickness experience for compulsory insurance funds made from 1906 to 1910; these rates have been adapted to the North American experience tables of insurance companies and applied to the age groups as enumerated for Canada at the 1931 Census; (2) the studies of sickness in the Civil Service of Canada 1935-36 to 1938-39; (3) the Census of 1931; (4) the Vital Statistics of Canada for 1931 and (5) other Canadian sickness surveys.

The Time-Loss Factor

In planning any scheme of Health Insurance the presentation of factual data is a factor for serious consideration—data which will determine just what time-loss may be experienced in the population through incapacity brought about by sickness.

Statistics regarding the average duration “per person, per annum” and the total days of sickness are indispensable in any attempt to determine the financial claims which might be made upon the Health Insurance Fund per annum. Rates of incapacity are likewise necessary for the purpose of ascertaining the sums of money which it would be necessary to contribute to provide for the costs of medical care; still more so, if any sickness benefit is to be provided.

In 1874 Dr. Lyon Playfair stressed the importance of sickness statistics thus:

“The record of deaths only registers, as it were, the wrecks which strew the shore, but it gives no account of the vessels which were tossed in the billows of sickness, strained and maimed as they often are by the effects of recurrent storms. Registration of sickness would tell us of the coming storms, and enable us to trim our vessels to meet them.”

Without registration of sickness it is impossible to measure accurately the prevalence or duration of disease. Even with our epidemiological knowledge regarding the duration of communicable diseases it is fallacious to assume any fixed ratio.

The fatality rate of any particular communicable disease varies greatly under varying circumstances as indicated in the 1941 epidemic of Encephalitis.

The “incubation period” for the majority of communicable diseases has been pretty well determined. In some instances, however, even this factor, together with the “source of infection”, “mode of transmission” and “period of communicability” are unknown.

Newsholme says: “The highest ratio of sickness is occasionally found associated with a favourable rate of mortality”.

In most countries of European civilization mortality statistics for the population at large are fairly reliable, but the large mass of common illnesses is ignored. These factors from the standpoint of the health and welfare of the nation are relatively more important than figures portraying actual fatalities.

It was Charles Dickens who said:

“It concerns a man more to know the risk of the fifty illnesses that may throw him on his back than the possible date of the one death that must come. We must have a list of killed and of the wounded too.”¹

It would be impossible to have every case of sickness reported but we must know of every case of an incapacitating sickness—the off regular employment period.

The history of sickness reporting and statistics reveals that many attempts have been made in a number of countries to establish complete national registrations of sickness. Since such attempts have for the most part resulted in failure, these failures may explain why no practical steps have yet been taken in Canada in this connection, even though public health workers, medical associations and other groups have strongly supported the movement.

Notification of Communicable Diseases

The public health laws of all the Provinces of Canada contain regulations which provide for the compulsory notification of communicable (infectious) diseases. Through the efforts of the Department of Pensions and National Health of Canada, in collaboration with the Dominion Bureau of Statistics, a fairly complete picture has been maintained for some years regarding the national incidence of

¹ All the Year Round, Vol. IV, pp. 227-8.

at least the major diseases such as Smallpox, Tuberculosis, Diphtheria, etc.² But of those communicable diseases, such as Mumps, Influenza and Chickenpox, which are seldom fatal except through secondary complications, the reporting is considered deficient, mainly because in some cases private practitioners fail to recognize the seriousness of an infection, which may afterwards initiate the onset of a more serious illness.

Communicable diseases, as the very title implies, are liable to appear from time to time in epidemic proportions but it is impossible to determine when or where such epidemics may occur. It is evident, therefore, that it would be impossible to make provision in any morbidity tables for the inclusion of such phenomena in estimated sickness ratios, but it is desirable to make some allowances for dealing with emergencies created by serious epidemics.

It is apparent, then, that in using even this type of morbidity statistics care must be exercised to determine the reliability of the data.

Institutional Statistics

During the past twenty years there has been great progress in the collection and analysis of statistical data regarding that portion of the population which is institutionalized.

There are available data as to the number of beds, patients in residence, hospital days, out patients treated during the year both for general and private hospitals and the specialized or eleemosynary institutions. These statistics are well related to costs and other economic and social data, but as they are dealt with in the Institutional Branch of the Dominion Bureau of Statistics, reference to them will suffice here.

Construction of Morbidity Tables

In order then, to determine the "incapacity factor" for the population at large—it is necessary to construct reliable morbidity tables.

While there is not sufficient information available to give a close approximation to the incidence of disease and the time loss through sickness for the Canadian population as a whole, yet many studies have been made which supply valuable data as to the effect of sickness upon certain selected groups within the population.

Sickness in the Civil Service of Canada

Among the Canadian selected group studies is that which was conducted by the Department of Pen-

sions and National Health³. In this four fiscal-year analysis of the incidence of sickness among the Civil Servants of Canada, it was found that the rate of incapacitation for time-loss reported both by medical certificate and as casual leave was—

Year	Population	Days per person per year
1935-36	30,617	7.4
1936-37	35,053	7.5
1937-38	35,140	7.1
1938-39	35,215	7.6

It should be remembered that this study covered a selected group of the population, in the upper salary brackets, where the salary scale is such that the normal necessities of life are fairly plentiful and the resulting sickness rate probably lower than that which would be encountered in the population at large in Canada. It does include a considerable number of persons in the lower or part time occupations of the Civil Service, such as lighthouse keepers and urban and rural postmen.

A recapitulation covering four successive years of the study is presented in Appendix 4.

The Montreal Survey

In December, 1926, a sickness census was taken of a selected group in the City of Montreal by L. K. Frankel and L. I. Dublin, which revealed that:

1. More than 2½% of the people were found to be so sick as to be incapacitated for work.
2. Each male lost, on the average, 8.9 days a year, and each female 10.1 days, on account of disability. The amount of time lost increased with age.
3. A considerable number had been disabled for long periods; nearly half reported having been ill one year or longer.
4. 9.5% of the disabled sick were in hospital, and 24% were confined to bed in their homes."

In this selected group the incapacitation rate is naturally high when compared with other surveys; the population covered in this survey numbered 18,955 French-Canadians from two parishes in the poorer section of the city of Montreal.

Morbidity Statistics in United States

Many studies of the incidence of morbidity have been conducted in the United States, some have

² see Vital Statistics — Communicable Diseases.

³ Statistical Study of Illnesses in the Civil Service of Canada, 1935-36; 1936-37; 1937-38; and 1938-39.

covered selected groups of population, and others the population at large. The collection and analysis of morbidity statistics have been approached in many ways. A multitude of medical problems requiring statistical measurement has resulted in a wide variety of figures and conclusions.

One of the most comprehensive studies which reflects a general summation of the United States morbidity statistics was included in the survey conducted by the Committee on the Costs of Medical Care, covering experiences in twelve consecutive months during 1928 to 1931. The committee found⁴ "that there were 7.1 days of disability per person in the population during the survey year".

Of equal interest in the study of morbidity incidence are the findings of Stecker⁵ of the Metropolitan Life Insurance Company, who discovered that among the white people of the wage-earning ages the calendar days of disability were 8.3 for males and 8.4 for females, while the days of disability for people aged 16 to 49 years, inclusive, were 7.4 days for males and 7.5 days for females.

Alberta's Plan for Health Insurance

When the Health Insurance Bill for Alberta was drafted all the resident population was included and under plan "A" the population of 731,605 was estimated to have an average morbidity of 7.35 days per person per year or a total yearly incapacitation of 5,377,296 days for the entire population. It is open to question whether Alberta's population is truly representative of the population of Canada, but at least the Alberta all-ages rate should be approximately equal to the Canada rate for all ages of the population.⁶

The "all-Canada figure for adult workers" has been placed at 5.5 days per annum lost through sickness, but this again is a highly selective group of the population. Therefore, it is necessary to look for other rates of morbidity which will embrace the entire Canadian population in all ages and age groups. Since such rates must include not only wage earners but also that portion of the population having a higher rate of sickness, such as indigent unemployables, incurables, old age pensioners and so on, the comprehensive rate must of necessity be higher than that for adult workers alone.

Provision must also be made to take into consideration that portion of the female population which is susceptible to pregnancy and the resulting incapacity periods for confinement.

British Columbia's Morbidity Rate Tables

In setting up the British Columbia scheme for health insurance it was necessary to construct

morbidity tables. In this connection the tables recommended for the studies were the Austrian morbidity tables which were based upon observations made from 1906 to 1910 for the Austrian compulsory insurance funds, and, according to the Geneva studies, bases on sufficiently wide experience to be accepted as sound. The English actuaries' tables were discarded because they were based upon the experience of an English Friendly Society rather than upon compulsory Health Insurance, and the morbidity rates were very considerably lower than the Austrian figures. In order, however, to bring the facts into close demographic relation with this part of the world, the experience tables of insurance companies on the North American Continent were consulted and it was on the basis of these two systems that the rate tables were constructed for determining the probable annual number of days of incapacity through sickness and accident in British Columbia. The male morbidity rate table was compiled on an annual average membership of 2,000,000 insured males and a total of approximately 95,000,000 days of sickness. The female morbidity rate tables covered an average annual membership of 650,000 insured women and 19,000,000 days of sickness.

IT WOULD SEEM THAT MORBIDITY RATE TABLES THUS CONSTRUCTED SHOULD BE REPRESENTATIVE FOR CANADA AS A WHOLE, AND IT IS UPON THIS BASIC PRINCIPLE, THEREFORE, THAT THE TABLES 1 TO 7 IN THE APPENDIX HAVE BEEN CONSTRUCTED.

Construction of the Morbidity Rate Tables

In this study an adapted "morbidity rate table" has been constructed in three sex distributions, namely:—

1. Males only.
2. Females—excluding Confinements.
3. Females—including Confinements.

⁴ Falk, I. S., Klem, Margaret C. and Sinai, Nathan, *The Incidence of Illness, etc.* Page 79.

⁵ Stecker, M. L., *Some recent morbidity data, 1918.*

⁶ Note:—The close approximation of these two rates would appear to be very marked and at the same time the facts add further confirmation to the statement on page 363, Appendix 2—that the estimated Canadian all ages rate (unadjusted for age composition) over-estimates for males and under-estimates for females.

The Alberta rate is given as 7.35 while the rates for Canada are given as

	Estimated Canadian Rate (unadjusted for age composition)	Estimated Canadian Rate
Males.....	7.767	7.73
Females (- Confinements).....	6.145	6.47
Females (+ Confinements).....	7.499	7.57

The total male and female (including confinements) estimated Canadian rate for Canada is 7.65. The total male and female (including confinements) estimated Canadian rate (unadjusted for age composition) for Canada is 7.63; the close agreement being due to a + male rate balancing a - female rate.

That the Alberta rate of 7.35 should be below these 7.6 rates is quite understandable since Alberta has (next to Saskatchewan) been shown as an over-estimate in all the tables in Appendix 2.

and has been applied, in the tables appended, to the population by province, county, census division, age groups and to the urban and rural populations.

In some instances figures were available for single years of age, but in this study it was thought advisable to set up estimated Canadian rates adapted from the Austrian rates in standard five-year age groups, thus:

AUSTRIAN MORBIDITY RATE TABLE ADJUSTED TO CANADA.

Age Groups	Male Days	Female Days	
		-Confine-ments	+Confine-ments
1. Birth to 9 years.....	6.82	—	—
2. 10 - 14 years.....	5.27	—	—
3. 15 - 19 years.....	5.24	—	—
4. Birth to 15 years.....	6.30	4.85	—
5. 16 - 19 years.....	—	4.21	5.02
6. 20 - 24 years.....	5.68	5.17	8.23
7. 25 to 29 years.....	5.96	5.53	9.63
8. 30 to 34 years.....	6.30	6.01	9.33
9. 35 - 39 years.....	6.78	6.71	8.99
10. 40 to 44 years.....	7.41	7.13	8.08
11. 45 to 49 years.....	8.47	8.08	8.35
12. 50 to 54 years.....	9.58	8.60	—
13. 55 to 59 years.....	11.42	9.21	—
14. 60 to 64 years.....	14.03	10.44	—
15. 65 to 69 years.....	17.23	12.97	—
16. 70 years of age.....	19.47	14.49	—
17. 71 years and upwards.....	23.70	18.24	—
A. 16 to 49 years.....	—	5.9809	8.4655
B. 16 to 70 years.....	7.67	6.557	8.65768
C. Birth to 70 years.....	7.526	5.967	7.341
D. All ages.....	7.767	6.145	7.4992

It should be noted that whereas the male morbidity rates are given for the two earliest groups, birth to nine, and ten to fourteen, the female rate is only available for the composite group of birth to 15 years. In the females including confinements, only the rates for the "maternity exposure period" (16-49 years of age) are shown. When dealing with the total population in all ages by sex groups, the omitted groups must be taken into account also.

It will be noted in Table 2, that in lines 16 to 19 inclusive the estimated Canadian rates are unadjusted for the age distribution of Canada; that these rates have been applied to the Canadian distribution of population within corresponding age ranges and that the total days incapacity for each age group within these age ranges do not add to the total figures obtained by the application of the unadjusted Canadian rate for the same age ranges. For instance for Canada—the total days incapacity for all ages in the population adds up to 41,550,876, whereas the application of the Canadian unadjusted for age composition rate of 7.767 to the total population of

the Dominion over-estimates the total days incapacity at 41,744,060 or 193,185 days sickness too many.

The Canadian unadjusted rates for each age group applied to the same age group in the 1931 Census of Canada assume an age distribution in Canada for that year similar to that of Austria in 1906-10 before the aggregate totals can be relied upon. This, of course, is very unlikely. For example, by contrasting the figures in Table 2, it will be seen that vastly different results are obtained in British Columbia (with a percentage for children under 16 years of age of 26.3) from those obtained in Quebec (with a percentage for children under 16 years of age of 37.6). In the first instance, the total days incapacity obtained by the addition of the sickness days in all ages is 3,136,159 as against a total days incapacity of 2,991,996 obtained by applying the Canadian rate (unadjusted for age composition) of 7.767 to the total male British Columbia population, an *under-estimate* of 144,163 days. In the second instance, the total days incapacity obtained by the addition of the sickness days in all ages is 10,834,083 as against the total days incapacity of 11,239,812 obtained by applying the unadjusted Canadian rate of 7.767 to the total male population of Quebec, an *over-estimate* of 405,729 sickness days. (See Appendix 2, Table 1.)

It would seem logical that by using the estimated Canadian age-group rates adapted for Canada for the corresponding age-groups in the population of Canada, and totalling the results, we can obtain a truer figure for the total all-ages morbidity sickness than can be obtained by applying the estimated Canadian all ages rate (unadjusted for age composition) to the total Canadian population without any regard to the Canadian age composition. The following table shows Total Days Incapacitation for all ages calculated on the better basis.

TOTAL DAYS INCAPACITATION — ALL AGES.

	Males	Females (exclusive of confinements)	Females (including confinements)
CANADA.....	41,550,876	32,381,130	37,864,108
Prince Edward Island.....	380,556	298,953	338,241
Nova Scotia.....	2,124,502	1,691,972	1,937,056
New Brunswick.....	1,642,255	1,302,387	1,499,864
Quebec.....	10,834,083	8,948,132	10,528,401
Ontario.....	13,912,128	11,402,728	13,288,342
Manitoba.....	2,792,975	2,087,163	2,458,712
Saskatchewan.....	3,679,304	2,544,083	2,988,636
Alberta.....	2,984,002	2,026,379	2,393,107
British Columbia.....	3,136,159	2,043,486	2,389,643
Northwest Territories and Yukon.....	64,912	35,847	42,106

For those who are interested in following this matter further, Table 1 in Appendix 2 shows the under or over-estimation of the Provincial and Dominion totals caused by applying the estimated Canadian rates (unadjusted for age composition) to the all ages, instead of totalling the age-groups. The pages following this table give an explanation of why these differences occur.

In Tables 1 to 7 appended to this study the morbidity rates from the adapted Austrian tables (as constructed for use in British Columbia) have been applied to the populations of Canada, as enumerated at the Census of 1931.

Sickness Days by Geographical Distribution

In Table 1 the unadjusted Canadian all ages adapted rate of 7.767 days per person per annum of sickness have been applied to the total population of Canada within each province, county (in the eastern provinces) and census divisions (in the Western provinces), according to the three sex groups of the population, namely:

- (a) Males—all ages.
- (b) Females—all ages—exclusive of confinements.
- (c) Females—all ages—including confinements.

It must be remembered that these estimates give only an approximation of what may be the sickness experience within the counties and census divisions. The estimates of incapacity have been based upon the unadjusted estimated Canadian all age rate without regard to the actual age distribution in each locality, owing to the fact that age distribution of the population varies considerable in each locality and that even if the rate used in each locality were adjusted for the differing age composition it is doubtful whether or not the estimates would be any more accurate as to the actual total sickness days in each community. For the present purpose, however, use of the estimated Canadian all ages rate (unadjusted for age distribution) not only eliminates a considerable amount of extra effort and loss of time but is equally effective and may be said to be a fair index of the true sickness situation in each locality.

This is equally true in Tables 2 to 4 inclusive, which show the estimated Canadian age-group rates applied to the age groups in the population of Canada at the 1931 Census by provinces and in Tables 5 to 7 inclusive, which show the same breakdowns plus an urban and rural distribution.

1931 Births Applied to the Maternity Exposure Period

In Appendix 3, the total maternity days as estimated for the "maternity exposure period" of life in

the female population 16 to 49 years of age are reviewed with the 1931 confinement figures as shown in the Vital Statistics of Canada.

The Average Earnings of the Canadian Population, Census, 1931

In the Census of 1931 Canadian wage-earners of 10 years of age and over were asked to state the total amount of their earnings for the twelve month period ending June 1st, 1931.

The term "wage-earner" as used in the Census means a person who works for salary or wages irrespective of the nature of employment. "Earnings" includes moneys received by way of commission or piece rate payment in addition to salary or wages but it does not include income from investment, pension or compensation. Hence such gainfully occupied persons as "employers", who employ others in the conduct of their own businesses, or "own account workers", who practise their trade or profession unassisted, or "unpaid family workers", who are employed without pay on work which contributes to the family income, as do many farmer's sons, were not included in the Census enquiry on earnings.

The total number of wage-earners in Canada at June 1st, 1931, as shown in the Census volumes was 2,570,097. The distribution by sex was 2,022,260 males and 547,837 females. The total number of wage-earners reporting earnings was 2,476,414 of which number the sex distribution was 1,947,957 males and 528,457 females. Therefore, of the total number of wage-earners, the percentage of those reporting earnings was 96.4, by sex distribution 96.3 males and 96.5 females.

The total earnings reported for wage-earners in Canada was \$2,100,552,700; of this amount \$1,804,942,500 was reported by male wage-earners, while \$295,610,200 was reported by female wage-earners. The total number of weeks employed as reported by Canadian wage-earners was 104,921,422. The sex distribution was 80,003,048 employed weeks for males and 24,621,374 employed weeks for females. Based upon these data the average annual earnings in Canada was \$927 for male wage-earners and \$559 for females. The average number of weeks employment per wage-earner was 41.07 for males and 46.59 for females. Thus the average earnings per week for Canadian wage-earners was \$22.56 for males and \$12.01 for females. The distribution of the average annual earnings and the average earnings

per week employed for the male and female wage-earners was as follows:

Province	Average Annual Earnings		Average Earnings per week employed	
	Male	Female	Male	Female
Canada	\$ 927	\$ 559	\$ 22.56	12.01
P.E.I.	679	364	14.50	7.40
N.S.	762	431	18.89	9.02
N.B.	755	437	18.43	9.26
Quebec	925	478	22.10	10.22
Ontario	1,005	636	24.16	13.64
Manitoba	929	559	23.08	12.22
Saskatchewan	761	524	18.33	11.34
Alberta	890	599	21.95	12.94
British Columbia	897	623	23.79	13.67

To approximate the loss of income due to sickness, we must first subtract from the total days incapacity that number which represents the incapacity of non-earners: say, persons below 16 years of age and over 70. Using the figures of Tables 2 and 4, we get for the age group 16-70—

	Males	Females
Number	3,459,831	3,128,979
Number of wage-earners	2,022,260	547,837
Total number of days incapacity	26,536,903	20,516,715
Number of weeks incapacity (at 5½ days per week)	4,824,891	3,730,312

If the incidence of morbidity is taken to be the same for wage-earners as for non-wage earners, we get

Number of weeks incapacity for wage-earners	2,819,630	579,092
Average earnings per week	\$22.56	\$12.01
Income lost	\$63,610,852	\$6,954,895

Call this \$70,000,000, though it does not follow that the worker's income always ceases immediately he is ill.

What about the loss of income through sickness of non-wage earners? If we mean cash income, the loss may not be so great: an employer's income does not usually stop or even get reduced because he himself falls sick; a farmer's income, when he is sick, does not stop in the same way as a discharged sick worker's

wage stops: the crops keep on growing; even a small tradesman working on his own account may find his sickness a considerable nuisance and handicap to his business, but the little retail shop generally gets carried on somehow.

It seems impossible to put a weekly cash estimate on these people's services, and useless to try to do so. All that can be said with any degree of assurance is that the sickness of 'wage-earners', using the Canadian Census definition, involves a loss of income approximating \$70,000,000 a year. When other people are incapacitated through sickness, the country loses their services, but what that represents in lost cash income would be a futile guess. We can attempt a cross-check on this figure, though the following estimate is of rather doubtful validity:

1931 National Income (from Nat. Inc. of Canada—B. of S.)—	\$3,497,854,000
Number gainfully employed	3,454,000
Average annual income per gainfully employed	\$1,012
Average daily income	\$2.77
If 30,640,246 working days are lost, then loss of income is	\$84,873,000

NOTE: The 30,640,246 is obtained by assuming all the males and one-fifth of the females are gainfully employed.

Annual Sickness Experience, 1931-40.

Assuming the estimated Canadian rate of 7.65 sickness days per year to be representative of the individual citizen of Canada, it is to be expected that the total incapacitating sickness days for the past ten years (1931-40) would be as set out in the following table:

Year	Population ¹	Total Sickness Days
1931	10,376,786	79,414,984
1932	10,506,000	80,370,900
1933	10,681,000	81,709,650
1934	10,824,000	82,803,600
1935	10,935,000	83,652,750
1936	11,028,000	84,364,200
1937	11,120,000	85,068,000
1938	11,209,000	85,748,850
1939	11,315,000	86,559,750
1940	11,385,000	87,095,250

¹ Population of 1931, census figures; for succeeding years estimates by the Census Analysis Branch, Dominion Bureau of Statistics.

CHAPTER XII

APPENDIX 1

Supporting Tables

The following tables show the distribution of sickness days according to provincial, county or census divisions, and municipal areas of Canada, estimated upon the enumeration of the population within the areas at the Census of 1931.

TABLE 1—POPULATION OF CANADA BY PROVINCES, COUNTIES OR CENSUS DIVISIONS, SHOWING THE ALL-AGES RATES OF INCAPACITATION UNADJUSTED FOR AGE COMPOSITION AND TOTAL DAYS' INCAPACITY ESTIMATED IN EACH COUNTY OR CENSUS DIVISION, AS OF CENSUS OF 1931.

(Males and Females)

Provinces by Counties or Census Divisions	Males — Rate 7.767		Females — Rate 6.145 (exclusive of confinements)		Females — Rate 7.4992 (including confinements)	
	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity
CANADA.....	5,374,541	41,744,060	5,002,245	30,738,796	5,002,245	37,512,836
PRINCE EDWARD ISLAND.....	45,392	352,560	42,646	262,060	42,646	319,811
Kings.....	10,143	78,781	9,004	55,330	9,004	67,523
Prince.....	16,317	126,734	15,183	93,299	15,183	113,860
Queens.....	18,932	147,045	18,459	113,431	18,459	138,428
NOVA SCOTIA.....	263,104	2,043,529	249,742	1,534,665	249,742	1,872,865
Annapolis.....	8,307	64,521	7,990	49,099	7,990	59,919
Antigonish.....	5,228	40,606	4,845	29,772	4,845	36,334
Cape Breton.....	48,143	373,927	44,276	272,076	44,276	332,035
Colchester.....	12,581	97,717	12,470	76,628	12,470	93,515
Cumberland.....	18,807	146,074	17,559	107,900	17,559	131,678
Digby.....	9,510	73,864	8,843	54,340	8,843	66,315
Gysborough.....	8,488	65,926	6,955	42,738	6,955	52,157
Halifax.....	49,744	386,362	50,460	310,077	50,460	378,410
Hants.....	9,993	77,616	9,400	57,763	9,400	70,492
Inverness.....	11,235	87,262	9,820	60,344	9,820	73,642
Kings.....	12,436	96,590	11,921	73,255	11,921	89,398
Lunenburg.....	16,174	125,623	15,500	95,248	15,500	116,238
Pictou.....	19,956	154,998	19,062	117,136	19,062	142,950
Queens.....	5,503	42,742	5,109	31,395	5,109	38,313
Richmond.....	5,875	45,631	5,223	32,095	5,223	39,168
Shelburne.....	6,452	50,113	6,033	37,073	6,033	45,243
Victoria.....	4,290	33,320	3,719	22,853	3,719	27,889
Yarmouth.....	10,382	80,637	10,557	64,873	10,557	79,169
NEW BRUNSWICK.....	208,620	1,620,351	199,599	1,226,536	199,599	1,496,833
Albert.....	4,039	31,371	3,640	22,368	3,640	27,297
Carleton.....	10,776	83,697	10,020	61,573	10,020	75,142
Charlott.....	10,868	84,412	10,469	64,332	10,469	78,509
Gloucester.....	21,402	166,229	20,512	126,046	20,512	153,824
Kent.....	12,279	95,371	11,199	68,818	11,199	83,983
Kings.....	10,264	79,720	9,543	58,642	9,543	71,565
Madawaska.....	12,650	98,253	11,877	72,984	11,877	89,068
Northumberland.....	17,695	137,437	16,429	100,956	16,429	123,204
Queens.....	6,058	47,052	5,161	31,714	5,161	38,703
Restigouche.....	15,607	121,219	14,252	87,579	14,252	106,879
St. John.....	29,996	232,979	31,617	194,286	31,617	237,102
Sunbury.....	3,726	28,940	3,273	20,113	3,273	24,545
Victoria.....	7,888	61,266	7,019	43,132	7,019	52,637
Westmorland.....	28,851	224,086	28,655	176,085	28,655	214,890
York.....	16,521	128,319	15,933	97,908	15,933	119,485
QUEBEC.....	1,447,124	11,239,812	1,427,131	8,769,720	1,427,131	10,702,341
Abitibi.....	13,257	102,967	10,435	64,123	10,435	78,254
Argenteuil.....	10,212	79,317	8,764	53,855	8,764	65,723
Arthabaska.....	13,767	106,928	13,392	82,294	13,392	100,429
Bagot.....	8,489	65,934	8,425	51,772	8,425	63,181
Beauce.....	22,650	175,923	22,143	136,069	22,143	166,055
Beauharnois.....	13,772	106,967	11,391	69,998	11,391	85,423
Bellechasse.....	11,308	87,829	10,698	65,739	10,698	80,226
Berthier.....	9,841	76,435	9,665	59,391	9,665	72,480
Bonaventure.....	16,691	129,639	15,741	96,728	15,741	118,045
Brome.....	6,616	51,386	5,817	35,745	5,817	43,623
Chamby.....	13,490	104,777	13,311	81,796	13,311	99,822
Champlain.....	30,869	239,760	29,066	178,611	29,066	217,972

TABLE 1—POPULATION OF CANADA BY PROVINCES, COUNTIES OR CENSUS DIVISIONS, SHOWING THE ALL-AGES RATES OF INCAPACITATION UNADJUSTED FOR AGE COMPOSITION AND TOTAL DAYS' INCAPACITY ESTIMATED IN EACH COUNTY OR CENSUS DIVISION, AS OF CENSUS OF 1931.—Continued.

(Males and Females)

Provinces by Counties or Census Divisions	Males — Rate 7.767		Females — Rate 6.145 (exclusive of confinements)		Females — Rate 7.4992 (including confinements)	
	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity
QUEBEC — Continued						
Charlevoix.....	11,575	89,903	11,365	69,838	11,365	85,228
Châteauguay.....	6,667	51,783	6,458	39,684	6,458	48,430
Chicoutimi.....	28,596	222,105	27,128	166,702	27,128	203,438
Compton.....	11,399	88,536	10,518	64,633	10,518	78,877
Deux Montagnes.....	7,328	56,917	6,956	42,745	6,956	52,164
Dorchester.....	14,547	112,987	13,447	82,632	13,447	100,842
Drummond.....	13,417	104,210	12,762	78,422	12,762	95,705
Frontenac.....	13,311	103,386	12,370	76,014	12,370	92,765
Gaspé.....	23,817	184,987	21,800	133,961	21,800	163,483
Hull.....	33,140	257,398	30,730	188,836	30,730	230,450
Huntingdon.....	6,451	50,105	5,894	36,219	5,894	44,200
Iberville.....	4,769	37,041	4,633	28,470	4,633	34,744
Joliette.....	13,644	105,973	13,941	85,667	13,941	104,546
Kamouraska.....	12,161	94,454	11,793	72,468	11,793	88,438
Labelle.....	10,710	83,185	9,430	57,947	9,430	70,717
Lac St-Jean.....	26,162	203,200	24,091	148,039	24,091	180,663
Laprairie.....	7,122	55,317	6,369	39,138	6,369	47,762
L'Assomption.....	7,731	60,047	7,592	46,653	7,592	56,934
Lévis.....	17,811	138,338	17,845	109,658	17,845	133,823
L'Islet.....	9,966	77,406	9,438	57,996	9,438	70,777
Lotbinrière.....	11,706	90,920	11,328	69,611	11,328	84,951
Maskinongé.....	8,160	63,379	7,879	48,416	7,879	59,086
Matane.....	23,497	182,501	21,775	133,807	21,775	163,295
Mégantic.....	17,782	138,113	17,710	108,828	17,710	132,811
Missisquoi.....	10,047	78,035	9,589	58,924	9,589	71,910
Montcalm.....	7,051	54,765	6,814	41,872	6,814	51,100
Montmagny.....	10,426	80,979	9,813	60,301	9,813	73,590
Montmorency.....	8,515	66,136	8,440	51,864	8,440	63,293
Montreal Island.....	494,287	3,839,127	509,581	3,131,375	509,581	3,821,450
Jesus Island.....	8,092	62,851	8,058	49,516	8,058	60,429
Napierville.....	3,912	30,384	3,688	22,663	3,688	27,657
Nicolet.....	14,282	110,928	14,391	88,433	14,391	107,921
Papineau.....	15,745	122,291	13,501	82,964	13,501	101,247
Pontiac.....	11,512	89,414	9,729	59,785	9,729	72,960
Portneuf.....	17,997	139,783	17,893	109,952	17,893	134,183
Québec.....	81,447	632,599	89,468	549,781	89,468	670,938
Richelieu.....	10,959	85,119	10,524	64,670	10,524	78,922
Richmond.....	12,896	100,163	12,060	74,109	12,060	90,440
Rimouski.....	16,607	128,987	16,544	101,663	16,544	124,067
Rouville.....	7,012	54,462	6,764	41,565	6,764	50,725
Saguenay (1).....	11,573	89,887	10,181	62,562	10,181	76,349
Shefford.....	14,535	112,893	13,727	84,352	13,727	102,942
Sherbrooke.....	18,054	140,225	19,332	118,795	19,332	144,975
Soulanges.....	4,641	36,047	4,458	27,394	4,458	33,431
Stanstead.....	12,619	98,011	12,499	76,806	12,499	93,733
St-Hyacinthe.....	12,361	96,008	13,493	82,914	13,493	101,187
St-Jean.....	9,193	71,402	8,456	51,962	8,456	63,413
St-Maurice.....	34,413	267,286	34,682	213,121	34,682	260,087
Témiscamingue.....	11,741	91,192	8,868	54,494	8,868	66,503
Témiscouata.....	25,718	199,752	24,576	151,020	24,576	184,300
Terrebonne.....	19,386	150,571	19,225	118,138	19,225	144,172
Vaudreuil.....	6,103	47,402	5,912	36,329	5,912	44,335
Verchères.....	6,398	49,693	6,205	38,130	6,205	46,533
Wolfe.....	8,738	67,888	8,173	50,223	8,173	61,291
Yamaska.....	8,433	65,499	8,387	51,538	8,387	62,896
ONTARIO.....	1,748,844	13,583,271	1,682,839	10,341,046	1,682,839	12,619,946
Addington.....	3,620	28,117	3,259	20,026	3,259	24,440
Algoma.....	25,081	194,804	21,363	131,276	21,363	160,205

(1) Includes District of New Quebec.

TABLE 1 — POPULATION OF CANADA BY PROVINCES, COUNTIES OR CENSUS DIVISIONS, SHOWING THE ALL-AGES RATES OF INCAPACITATION UNADJUSTED FOR AGE COMPOSITION AND TOTAL DAYS' INCAPACITY ESTIMATED IN EACH COUNTY OR CENSUS DIVISION, AS OF CENSUS OF 1931.—Continued.

(Males and Females)

Provinces by Counties or Census Divisions	Males — Rate 7.767		Females — Rate 6.145 (exclusive of confinements)		Females — Rate 7.4992 (including confinements)	
	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity
ONTARIO — Continued						
Brant.....	26,637	206,890	26,839	164,926	26,839	201,271
Bruce.....	21,962	170,579	20,324	124,891	20,324	152,414
Carleton.....	81,975	636,700	88,065	541,159	88,065	660,417
Cochrane.....	34,644	269,080	23,389	143,725	23,389	175,399
Dufferin.....	7,908	61,421	6,984	42,917	6,984	52,374
Dundas.....	8,294	64,419	7,804	47,956	7,804	58,524
Durham.....	13,454	104,497	12,328	75,756	12,328	92,450
Elgin.....	22,133	171,907	21,303	130,907	21,303	159,755
Essex.....	82,509	640,847	77,271	474,830	77,271	579,471
Frontenac.....	23,477	182,346	22,279	136,904	22,279	167,075
Glengarry.....	9,779	75,953	8,887	54,611	8,887	66,645
Grenville.....	8,252	64,093	8,075	49,621	8,075	60,556
Grey.....	29,710	230,758	27,989	171,992	27,989	209,895
Haldimand.....	11,103	86,237	10,325	63,447	10,325	77,429
Haliburton.....	3,274	25,429	2,723	16,733	2,723	20,420
Halton.....	13,497	104,831	13,061	80,260	13,061	97,947
Hastings.....	30,227	234,773	28,619	175,864	28,619	214,620
Huron.....	22,998	178,625	22,182	136,308	22,182	166,347
Kenora.....	12,473	96,878	9,473	58,212	9,473	71,040
Kent.....	32,487	252,327	30,378	186,673	30,378	227,811
Lambton.....	28,349	220,187	26,325	161,767	26,325	197,417
Lanark.....	16,635	129,204	16,221	99,678	16,221	121,645
Leeds.....	17,678	137,305	17,479	107,408	17,479	131,079
Lennox.....	6,279	48,769	5,725	35,180	5,725	42,933
Lincoln.....	27,290	211,961	26,909	165,356	26,909	201,796
Manitoulin.....	5,694	44,225	5,040	30,971	5,040	37,796
Middlesex.....	58,638	455,441	59,603	366,260	59,603	446,975
Muskoka.....	11,077	86,035	9,908	60,885	9,908	74,302
Nipissing.....	21,919	170,245	19,288	118,525	19,288	144,645
Norfolk.....	16,375	127,185	14,984	92,077	14,984	112,368
Northumberland.....	16,019	124,420	15,433	94,836	15,433	115,735
Ontario.....	30,627	237,880	29,040	178,451	29,040	217,777
Oxford.....	24,538	190,587	23,287	143,099	23,287	174,634
Parry Sound.....	13,986	108,629	11,914	73,211	11,914	89,346
Peel.....	14,841	115,270	13,315	81,821	13,315	99,852
Perth.....	26,171	203,270	25,221	154,983	25,221	189,137
Peterborough.....	22,221	172,591	21,737	133,574	21,737	163,010
Prescott.....	12,618	98,004	11,978	73,605	11,978	89,825
Prince Edward.....	8,476	65,833	8,217	50,493	8,217	61,621
Rainy River.....	9,560	74,253	7,799	47,925	7,799	58,486
Renfrew.....	26,914	209,041	25,313	155,548	25,313	189,827
Russell.....	9,555	74,214	8,932	54,887	8,932	66,983
Simcoe.....	43,442	337,414	40,225	247,183	40,225	301,655
Stormont.....	16,595	128,893	15,929	97,884	15,929	119,455
Sudbury.....	33,122	257,259	25,129	154,418	25,129	188,447
Thunder Bay.....	35,987	279,511	29,131	179,010	29,131	218,459
Timiskaming.....	21,236	164,940	15,807	97,134	15,807	118,540
Victoria.....	13,346	103,658	12,498	76,800	12,498	93,725
Waterloo.....	44,745	347,534	45,107	277,182	45,107	338,266
Welland.....	43,083	334,626	39,648	243,637	39,648	297,328
Wellington.....	29,810	231,534	28,354	174,235	28,354	212,632
Wentworth.....	95,192	739,356	94,827	582,712	94,827	711,127
York.....	419,182	3,255,787	437,773	2,690,115	437,773	3,282,947
District of Patricia.....	2,150	16,699	1,823	11,202	1,823	13,671
MANITOBA.....	368,065	2,858,761	332,074	2,040,595	332,074	2,490,289
Division No. 1.....	12,082	93,841	10,735	65,967	10,735	80,504
Division No. 2.....	20,117	156,249	18,693	114,868	18,693	140,183
Division No. 3.....	14,520	112,777	12,233	75,172	12,233	91,738

TABLE 1 — POPULATION OF CANADA BY PROVINCES, COUNTIES OR CENSUS DIVISIONS, SHOWING THE ALL-AGES RATES OF INCAPACITATION UNADJUSTED FOR AGE COMPOSITION AND TOTAL DAYS' INCAPACITY ESTIMATED IN EACH COUNTY OR CENSUS DIVISION, AS OF CENSUS OF 1931.—Continued.

(Males and Females)

Provinces by Counties or Census Divisions	Males — Rate 7.767		Females — Rate 6.145 (exclusive of confinements)		Females — Rate 7.4992 (including confinements)	
	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity
MANITOBA — Continued						
Division No. 4.....	9,981	77,522	8,272	50,831	8,272	62,033
Division No. 5.....	24,941	193,717	21,287	130,809	21,287	159,635
Division No. 6.....	143,706	1,116,164	140,579	863,858	140,579	1,054,230
Division No. 7.....	19,338	150,198	17,574	107,992	17,574	131,791
Division No. 8.....	10,927	84,870	8,919	54,807	8,919	66,885
Division No. 9.....	23,825	185,049	21,132	129,856	21,132	158,473
Division No. 10.....	9,576	74,377	8,340	51,249	8,340	62,543
Division No. 11.....	15,239	118,361	12,861	79,031	12,861	96,447
Division No. 12.....	13,185	102,408	11,159	68,572	11,159	83,684
Division No. 13.....	12,885	100,078	11,378	69,918	11,378	85,326
Division No. 14.....	13,971	108,513	12,007	73,783	12,007	90,043
Division No. 15.....	5,466	42,454	4,542	27,911	4,542	34,061
Division No. 16.....	18,306	142,183	12,363	75,971	12,363	92,713
SASKATCHEWAN.....	499,935	3,882,995	421,850	2,592,268	421,850	3,163,538
Division No. 1.....	22,826	177,290	18,718	115,022	18,718	140,370
Division No. 2.....	23,572	183,084	19,259	118,347	19,259	144,427
Division No. 3.....	25,487	197,958	21,394	131,466	21,394	160,438
Division No. 4.....	15,814	122,827	12,312	75,657	12,312	92,330
Division No. 5.....	28,939	224,769	25,009	153,680	25,009	187,548
Division No. 6.....	57,388	445,733	52,518	322,723	52,518	393,843
Division No. 7.....	33,762	262,229	29,468	181,081	29,468	220,986
Division No. 8.....	27,149	210,866	22,212	136,493	22,212	166,572
Division No. 9.....	32,339	251,177	28,200	173,289	28,200	211,478
Division No. 10.....	22,790	177,010	19,100	117,369	19,100	143,235
Division No. 11.....	46,299	359,604	41,677	256,105	41,677	312,544
Division No. 12.....	22,401	173,989	18,211	111,907	18,211	136,568
Division No. 13.....	23,453	182,159	19,179	117,855	19,179	143,827
Division No. 14.....	26,126	202,921	20,096	123,490	20,096	150,704
Division No. 15.....	45,417	352,754	38,286	235,267	38,286	287,114
Division No. 16.....	27,340	212,350	21,273	130,723	21,273	159,530
Division No. 17.....	15,363	119,324	11,952	73,445	11,952	89,630
Division No. 18.....	3,470	26,951	2,986	18,349	2,986	22,393
ALBERTA.....	400,199	3,108,346	331,406	2,036,490	331,406	2,485,280
Division No. 1.....	15,781	122,571	13,068	80,303	13,068	98,000
Division No. 2.....	31,370	243,651	25,816	158,639	25,816	193,599
Division No. 3.....	8,665	67,301	6,401	39,334	6,401	48,002
Division No. 4.....	16,343	126,936	12,724	78,189	12,724	95,420
Division No. 5.....	14,989	116,420	11,662	71,663	11,662	87,456
Division No. 6.....	74,751	580,591	65,449	402,184	65,449	490,815
Division No. 7.....	20,951	162,726	17,155	105,418	17,155	128,649
Division No. 8.....	32,891	255,464	28,125	172,828	28,125	210,915
Division No. 9.....	14,188	110,198	10,350	63,601	10,350	77,617
Division No. 10.....	31,449	244,264	26,600	163,457	26,600	199,479
Division No. 11.....	66,880	519,457	60,376	371,011	60,376	452,772
Division No. 12.....	8,226	63,892	5,504	33,822	5,504	41,275
Division No. 13.....	13,775	106,991	11,161	68,584	11,161	83,699
Division No. 14.....	22,187	172,171	17,341	106,560	17,341	130,044
Division No. 15.....	8,014	62,245	5,700	35,027	5,700	42,745
Division No. 16.....	15,995	124,233	11,201	68,830	11,201	83,998
Division No. 17.....	3,764	29,235	2,773	17,040	2,773	20,795
BRITISH COLUMBIA.....	385,219	2,991,996	309,044	1,899,075	309,044	2,317,583
Division No. 1.....	13,488	104,761	9,078	55,784	9,078	68,078
Division No. 2.....	23,041	178,960	17,414	107,009	17,414	130,591
Division No. 3.....	22,631	175,775	17,892	109,946	17,892	134,176

TABLE 1 — POPULATION OF CANADA BY PROVINCES, COUNTIES OR CENSUS DIVISIONS, SHOWING THE ALL-AGES RATES OF INCAPACITATION UNADJUSTED FOR AGE COMPOSITION AND TOTAL DAYS' INCAPACITY ESTIMATED IN EACH COUNTY OR CENSUS DIVISION, AS OF CENSUS OF 1931.—Concluded.

(Males and Females)

Provinces by Counties or Census Divisions	Males — Rate 7.767		Females — Rate 6.145 (exclusive of confinements)		Females — Rate 7.4992 (including confinements)	
	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity
BRITISH COLUMBIA — Continued						
Division No. 4.....	204,576	1,588,942	175,282	1,077,108	175,282	1,314,475
Division No. 5.....	66,339	515,255	54,594	335,480	54,594	409,411
Division No. 6.....	17,827	138,462	12,198	74,957	12,198	91,475
Division No. 7.....	7,892	61,297	4,766	29,287	4,766	35,741
Division No. 8.....	13,124	101,934	8,410	51,680	8,410	63,068
Division No. 9.....	11,812	91,744	6,886	42,314	6,886	51,640
Division No. 10.....	4,489	34,866	2,524	15,510	2,524	18,928
YUKON.....	2,825	21,942	1,405	8,633	1,405	10,536
NORTHWEST TERRITORIES.....	5,214	40,497	4,509	27,708	4,509	33,814

TABLE 2 — POPULATION OF CANADA BY PROVINCES CLASSIFIED BY AGE GROUPS SHOWING THE RATES OF INCAPACITATION AND TOTAL DAYS' INCAPACITY ESTIMATED IN EACH AGE GROUP, AS OF CENSUS OF 1931.
(Males only)

Age Groups	Rate of Incapacitation	CANADA		PRINCE EDWARD ISLAND		NOVA SCOTIA		NEW BRUNSWICK		QUEBEC	
		Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity
1. Birth - 9 years.....	6.82	1,115,679	7,608,931	9,485	64,688	56,006	381,961	49,518	337,713	355,706	2,425,915
2. 10 - 14 years.....	5.27	542,930	2,861,241	4,790	25,243	28,662	151,049	23,756	125,194	158,149	833,445
3. 15 - 19 years.....	5.24	525,250	2,752,310	4,632	24,272	27,382	143,482	21,943	114,981	147,539	773,104
4. 20 - 24 years.....	5.68	493,722	2,633,941	3,866	21,959	22,817	129,601	17,625	100,110	130,733	742,563
5. 25 - 29 years.....	5.96	409,976	2,443,456	2,798	16,676	17,079	101,791	13,189	78,606	113,135	674,285
6. 30 - 34 years.....	6.30	368,135	2,319,252	2,610	16,443	15,132	95,332	11,939	75,216	98,202	618,673
7. 35 - 39 years.....	6.78	359,081	2,134,570	2,692	18,252	15,633	105,992	12,041	81,638	89,145	604,403
8. 40 - 44 years.....	7.41	347,763	2,576,924	2,297	17,021	14,218	105,355	10,876	80,591	78,682	583,034
9. 45 - 49 years.....	8.47	321,513	2,723,214	2,249	19,049	13,639	115,522	10,307	87,300	68,676	581,686
10. 50 - 54 years.....	9.58	267,332	2,561,039	2,119	20,300	12,591	120,622	9,226	88,385	57,900	554,682
11. 55 - 59 years.....	11.42	199,160	2,274,407	1,804	20,602	10,444	119,270	7,606	86,861	45,081	514,825
12. 60 - 64 years.....	14.03	156,912	2,201,475	1,621	22,743	9,276	130,142	6,573	92,219	35,298	495,231
13. 65 - 69 years.....	17.23	120,695	2,079,576	1,568	27,017	7,473	128,760	5,280	90,974	27,399	472,085
14. 70 years.....	19.47	23,635	460,174	358	6,970	1,560	30,373	1,110	21,612	5,414	105,411
15. 71 years and upwards.....	23.70	(1) 152,758	3,620,366	(2) 2,503	59,321	(3) 11,192	265,250	(4) 7,631	180,855	(5) 36,065	834,741
16. Birth - 15 years.....	6.30	1,761,952	11,100,297	15,204	95,785	90,078	567,491	77,707	489,554	543,160	3,421,908
17. 16 - 70 years.....	7.67	3,459,831	26,536,903	27,685	212,344	161,834	1,241,267	123,282	945,573	867,899	6,656,785
18. Birth - 70 years.....	7.526	5,221,783	39,299,139	42,889	322,783	251,912	1,895,890	200,989	1,512,643	1,411,059	10,619,630
19. All ages.....	7.767	5,374,541	41,744,060	45,392	352,560	263,104	2,043,529	208,620	1,620,351	1,447,124	11,239,812

(v) Includes 2,711 age not given.

(vi) Includes 4 age not given.

(vii) Includes 76 age not given.

(viii) Includes 47 age not given.

(ix) Includes 357 age not given.

TABLE 2 — POPULATION OF CANADA BY PROVINCES CLASSIFIED BY AGE GROUPS SHOWING THE RATES OF INCAPACITATION AND
TOTAL DAYS' INCAPACITY ESTIMATED IN EACH AGE GROUP, AS OF CENSUS OF 1931. — Continued.
(Males only)

Age Groups	Rate of Incapacitation	ONTARIO		MANITOBA		SASKATCHEWAN		ALBERTA		BRITISH COLUMBIA		NORTHWEST TERRITORIES & YUKON	
		Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity
1. Birth - 9 years.....	6.82	324,855	2,215,511	71,970	490,835	109,830	749,041	80,359	548,048	56,236	383,530	1,714	11,689
2. 10 - 14 years.....	5.27	161,623	851,733	38,968	205,361	55,606	283,944	40,458	213,214	30,180	159,049	738	3,889
3. 15 - 19 years.....	5.24	163,315	855,771	38,657	202,563	51,657	270,683	37,677	197,427	31,805	166,658	643	3,369
4. 20 - 24 years.....	5.68	147,669	838,760	32,687	185,662	43,967	249,733	34,701	197,102	29,055	165,032	602	3,419
5. 25 - 29 years.....	5.96	135,898	809,952	27,687	165,015	37,925	226,033	32,588	196,012	28,813	171,725	564	3,361
6. 30 - 34 years.....	6.30	128,750	811,125	24,369	153,525	31,717	198,817	28,570	179,991	26,287	165,608	559	3,522
7. 35 - 39 years.....	6.78	125,702	852,260	24,509	166,171	32,987	223,652	28,283	191,827	27,580	186,992	499	3,383
8. 40 - 44 years.....	7.41	117,980	874,232	25,562	189,414	34,674	256,934	29,587	219,240	33,375	247,309	512	3,794
9. 45 - 49 years.....	8.47	108,017	914,904	23,919	202,594	32,339	273,911	27,439	232,408	34,473	291,986	455	3,854
10. 50 - 54 years.....	9.58	91,564	877,183	18,992	181,943	24,392	233,675	21,288	203,747	28,809	275,990	471	4,512
11. 55 - 59 years.....	11.42	70,273	802,518	13,268	151,521	16,201	185,015	14,101	161,033	19,982	228,194	400	4,568
12. 60 - 64 years.....	14.03	57,740	810,092	10,057	141,100	10,826	151,889	9,923	139,220	15,215	213,466	383	5,373
13. 65 - 69 years.....	17.23	46,210	796,198	7,707	132,792	7,760	133,705	6,803	117,216	10,273	177,004	222	3,825
14. 70 years.....	19.47	9,293	180,935	1,352	26,323	1,444	28,115	1,232	23,987	1,822	35,474	50	974
15. 71 years and upwards.....	23.70	(1) 59,955	1,420,934	(2) 8,361	198,156	(3) 8,610	204,057	(4) 6,900	163,530	(5) 11,314	268,142	(6) 227	5,380
16. Birth - 15 years.....	6.30	517,511	3,260,319	118,645	747,464	176,084	1,109,329	128,497	809,531	92,477	582,605	2,589	16,310
17. 16 - 70 years.....	7.67	1,171,378	8,984,469	241,059	1,948,923	315,241	2,417,898	264,802	2,031,031	281,428	2,158,553	5,223	40,060
18. Birth - 70 years.....	7.526	1,688,889	12,710,579	359,704	2,707,132	491,325	3,697,712	393,299	2,959,968	373,905	2,814,009	7,812	58,793
19. All ages.....	7.767	1,748,844	13,553,271	368,065	2,868,761	499,935	3,882,995	400,199	3,108,346	385,219	2,991,996	8,039	62,439

(1) Includes 515 age not given. (2) Includes 79 age not given. (3) Includes 128 age not given. (4) Includes 1,353 age not given. (5) Includes 69 age not given. (6) Includes 69 age not given.

TABLE 3 — POPULATION OF CANADA BY PROVINCES CLASSIFIED BY AGE GROUPS SHOWING THE RATES OF INCAPACITATION AND
TOTAL DAYS' INCAPACITY ESTIMATED IN EACH AGE GROUP, AS OF CENSUS OF 1931.
(Females, exclusive of confinements)

Age Groups	Rate of Incapacitation	CANADA		PRINCE EDWARD ISLAND		NOVA SCOTIA		NEW BRUNSWICK		QUEBEC	
		Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity
1. 16 - 19 years.....	4.21	412,533	1,736,764	3,437	14,470	20,784	87,501	16,651	70,101	122,087	513,986
2. 20 - 24 years.....	5.17	447,463	2,313,384	3,194	16,513	20,404	105,489	16,769	86,696	136,383	705,100
3. 25 - 29 years.....	5.53	376,305	2,080,967	2,519	13,980	16,199	89,581	13,127	72,592	113,287	626,477
4. 30 - 34 years.....	6.01	340,701	2,047,614	2,396	14,400	14,790	88,888	11,935	71,729	95,976	576,816
5. 35 - 39 years.....	6.71	329,382	2,210,152	2,520	16,909	15,044	100,945	11,871	79,654	84,923	569,833
6. 40 - 44 years.....	7.13	298,336	2,127,135	2,237	15,950	13,271	94,622	10,134	72,255	74,005	527,656
7. 45 - 49 years.....	8.08	263,698	2,130,680	2,137	17,267	12,550	101,404	9,398	75,936	62,960	508,717
8. 50 - 54 years.....	8.60	221,349	1,903,602	2,040	17,544	11,101	95,469	8,094	69,608	52,720	453,392
9. 55 - 59 years.....	9.21	167,865	1,546,037	1,669	15,371	9,488	87,385	6,719	61,882	41,894	385,844
10. 60 - 64 years.....	10.44	137,685	1,437,431	1,539	16,067	8,135	84,929	5,829	60,855	34,002	354,981
11. 65 - 69 years.....	12.97	110,439	1,432,394	1,436	18,625	7,048	91,413	4,929	63,929	27,304	354,133
12. 70 years.....	14.49	23,223	336,501	337	4,883	1,507	21,836	1,094	15,852	5,550	80,420
13. 71 years and upwards.....	18.24	(1) 148,852	2,715,061	(2) 2,515	45,874	(3) 11,973	218,387	(4) 7,357	134,192	(5) 37,116	676,996
14. Birth - 15 years.....	4.85	1,724,414	8,363,408	14,670	71,150	87,448	424,123	75,692	367,106	538,924	2,613,781
15. Birth - 70 years.....	5.967	4,853,393	28,960,196	40,131	239,462	237,769	1,418,768	192,242	1,147,108	1,390,015	8,294,219
16. 16 - 49 years.....	5.9809	2,468,418	14,763,361	18,440	110,288	113,042	676,093	89,885	537,593	689,621	4,124,554
17. 16 - 70 years.....	6.557	3,128,979	20,516,715	25,461	166,948	150,321	985,655	116,550	764,218	851,091	5,580,604
18. All ages.....	6.145	5,002,245	30,738,796	42,646	262,060	249,742	1,534,665	199,399	1,226,536	1,427,131	8,769,720

(1) Includes 1,060 age not given.

(2) Includes 3 age not given.

(3) Includes 38 age not given.

(4) Includes 21 age not given.

(5) Includes 293 age not given.

TABLE 3 — POPULATION OF CANADA BY PROVINCES CLASSIFIED BY AGE GROUPS SHOWING THE RATES OF INCAPACITATION AND TOTAL DAYS' INCAPACITY ESTIMATED IN EACH AGE GROUP, AS OF CENSUS OF 1931. — Continued.

(Females, exclusive of confinements)

Age Groups	ONTARIO		MANITOBA		SASKATCHEWAN		ALBERTA		BRITISH COLUMBIA		NORTHWEST TERRITORIES & YUKON		
	Rate of Incapacitation	Number of Persons	Total days' Incapacity	Number of Persons									
1. 16 - 19 years.....	4.18	125,370	527,808	30,888	130,039	39,244	165,217	29,088	122,460	24,507	103,174	477	2,008
2. 20 - 24 years.....	5.17	143,512	741,957	31,672	163,744	37,928	196,088	30,397	157,152	26,742	138,256	462	2,389
3. 25 - 29 years.....	5.53	128,780	712,153	24,760	136,923	29,534	163,323	25,048	138,516	22,628	125,133	423	2,339
4. 30 - 34 years.....	6.01	123,383	741,532	21,664	130,201	26,201	157,468	22,264	133,807	21,640	130,056	452	2,717
5. 35 - 39 years.....	6.71	120,947	811,554	22,602	151,659	26,336	176,715	21,778	146,130	22,991	154,270	370	2,483
6. 40 + 44 years.....	7.13	110,565	788,328	20,730	147,805	24,194	172,503	20,145	143,634	22,738	162,122	317	2,260
7. 45 - 49 years.....	8.08	98,114	792,761	18,318	148,009	20,736	167,547	17,585	142,087	21,613	174,633	287	2,319
8. 50 - 54 years.....	8.60	86,065	740,159	14,097	121,234	15,648	134,573	13,477	115,902	17,891	153,863	216	1,858
9. 55 - 59 years.....	9.21	66,817	615,385	9,902	91,197	10,089	92,920	8,816	81,195	12,314	113,412	157	1,446
10. 60 - 64 years.....	10.44	57,186	597,022	7,742	80,826	7,387	77,120	6,440	67,234	9,298	97,071	127	1,326
11. 65 - 69 years.....	12.97	46,501	603,118	5,890	76,393	5,622	72,917	4,718	61,193	6,932	89,908	* 59	765
12. 70 years.....	14.49	10,201	147,812	1,150	16,664	1,089	15,780	905	13,113	1,369	19,837	21	304
13. 71 years and upwards.....	18.24	(6) 62,805	1,145,563	(7) 7,287	132,915	(8) 6,675	121,752	(9) 5,216	95,140	(10) 7,812	142,491	(11) 96	1,751
14. Birth - 15 years.....	4.85	502,593	2,437,576	115,372	559,554	171,167	830,160	125,529	608,816	90,569	439,260	2,450	11,882
15. Birth - 70 years.....	5.967	1,620,034	9,666,743	324,787	1,938,004	415,175	2,477,349	326,190	1,946,376	301,232	1,797,451	5,818	34,716
16. 16 - 49 years.....	5.9809	850,671	5,087,778	170,634	1,020,545	204,173	1,221,138	166,305	994,634	162,859	974,043	2,788	16,675
17. 16 - 70 years.....	6.557	1,117,441	7,327,661	209,415	1,373,134	244,008	1,599,960	200,661	1,315,734	210,663	1,381,317	3,368	22,084
18. All ages.....	6.145	1,682,839	10,341,046	332,074	2,040,595	421,850	2,592,268	331,406	2,036,490	309,044	1,899,075	5,914	36,341

(*) Includes 356 age not given.

(**) Includes 62 age not given.

(***) Includes 61 age not given.

(****) Includes 157 age not given.

(*****) Includes 34 age not given.

(*****) Includes 35 age not given.

TABLE 4 — POPULATION OF CANADA BY PROVINCES CLASSIFIED BY AGE GROUPS SHOWING THE RATES OF INCAPACITATION AND TOTAL DAYS' INCAPACITY ESTIMATED IN EACH AGE GROUP, AS OF CENSUS OF 1931.
 (Females, including confinement)

Age Groups	Rate of Incapacitation	CANADA		PRINCE EDWARD ISLAND		NOVA SCOTIA		NEW BRUNSWICK		QUEBEC	
		Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity
1. 16 - 19 years.....	5.02	412,533	2,070,916	3,437	17,254	20,784	104,335	16,651	83,588	122,087	612,877
2. 20 - 24 years.....	8.23	447,463	3,682,620	3,194	26,286	20,404	167,925	16,769	138,009	136,383	1,122,432
3. 25 - 29 years.....	9.63	376,305	3,623,819	2,519	24,258	16,199	155,996	13,127	126,413	113,287	1,090,554
4. 30 - 34 years.....	9.33	340,701	3,178,740	2,396	22,355	14,790	137,991	11,935	111,353	95,976	895,456
5. 35 - 39 years.....	8.99	329,382	2,961,146	2,520	22,655	15,044	135,245	11,871	106,721	84,923	763,458
6. 40 - 44 years.....	8.08	298,336	2,410,555	2,237	18,075	13,271	107,229	10,134	81,883	74,005	597,961
7. 45 - 49 years.....	8.35	263,698	2,201,878	2,137	17,844	12,550	104,733	9,398	78,473	62,960	525,716
8. Birth - 70 years.....	7.341	4,853,393	35,628,758	40,131	294,632	237,769	1,745,462	192,342	1,411,249	1,390,015	10,204,100
9. 16 - 49 years.....	8.4655	2,468,418	20,896,393	18,440	156,104	113,042	956,957	89,885	760,921	689,621	5,837,987
10. 16 - 70 years.....	8.65768	3,128,979	27,089,699	25,461	220,433	150,321	1,301,331	116,550	1,009,053	851,091	7,368,474
11. All ages.....	7.4992	5,002,245	37,512,836	42,646	319,811	249,742	1,872,865	199,599	1,496,833	1,427,131	10,702,341

TABLE 4 — POPULATION OF CANADA BY PROVINCES CLASSIFIED BY AGE GROUPS SHOWING THE RATES OF INCAPACITATION AND TOTAL DAYS' INCAPACITY ESTIMATED IN EACH AGE GROUP, AS OF CENSUS OF 1931. — Continued.
(Females, including confinements)

Age Groups	Rate of Incapacitation	ONTARIO		MANITOBA		SASKATCHEWAN		ALBERTA		BRITISH COLUMBIA		NORTHWEST TERRITORIES & YUKON	
		Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity								
1. 16 - 19 years.....	5.02	125,370	629,357	30,888	155,058	39,244	197,005	29,088	146,022	24,507	123,025	477	2,395
2. 20 - 24 years.....	8.23	143,512	1,181,104	31,672	260,661	37,928	312,147	30,397	250,167	26,742	220,086	462	3,803
3. 25 - 29 years.....	9.63	128,780	1,240,152	24,760	238,439	29,534	284,413	25,048	241,212	22,628	217,908	423	4,074
4. 30 - 34 years.....	9.33	123,383	1,151,163	21,664	202,126	26,201	244,455	22,264	207,723	21,640	201,901	452	4,217
5. 35 - 39 years.....	8.99	120,947	1,087,314	22,602	203,192	26,336	236,761	21,778	195,784	22,991	206,689	370	3,327
6. 40 - 44 years.....	8.08	110,565	893,365	20,730	167,498	24,194	195,487	20,145	162,772	22,733	183,723	317	2,562
7. 45 - 49 Years.....	8.35	98,114	819,252	18,318	152,955	20,736	173,146	17,585	146,834	21,613	180,469	287	2,396
8. Birth - 70 years.....	7.341	1,620,034	11,892,670	324,787	2,384,261	415,175	3,047,800	326,190	2,394,561	301,232	2,211,344	5,818	42,710
9. 16 - 49 years.....	8.4655	850,671	7,201,355	170,634	1,444,502	204,173	1,728,427	166,305	1,407,855	162,859	1,378,683	2,788	23,602
10. 16 - 70 years.....	8.65768	1,117,441	9,674,447	209,415	1,813,048	244,008	2,112,543	200,661	1,737,259	210,663	1,823,853	3,368	29,159
11. All ages.....	7.4992	1,682,839	12,619,946	332,074	2,490,289	421,850	3,163,538	331,406	2,455,280	309,044	2,317,583	5,914	44,350

TABLE 5—POPULATION OF CANADA BY PROVINCES CLASSIFIED BY RURAL AND URBAN AND BY AGE GROUPS, SHOWING THE RATES OF INCAPACITATION AND TOTAL DAYS' INCAPACITY ESTIMATED IN EACH AGE GROUP, AS OF CENSUS OF 1931.
(Males only)

Age Groups	Rate of Incapacitation	CANADA				PRINCE EDWARD ISLAND				NOVA SCOTIA			
		Rural		Urban		Rural		Urban		Rural		Urban	
		Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity
1. Birth - 9 years.....	6.82	576,916	3,934,567	538,763	3,674,364	7,341	50,066	2,144	14,622	31,176	212,620	24,830	169,341
2. 10 - 14 years.....	5.27	277,684	1,463,395	265,246	1,397,846	3,770	19,868	1,020	5,375	16,377	86,307	12,285	64,742
3. 15 - 19 years.....	5.24	267,805	1,403,298	257,445	1,349,012	3,593	18,828	1,039	5,444	15,580	81,639	11,802	61,843
4. 20 - 24 years.....	5.68	227,992	1,294,994	235,730	1,338,947	2,855	16,216	1,011	5,743	12,262	69,648	10,555	59,953
5. 25 - 29 years.....	5.96	188,505	1,123,490	221,471	1,319,966	2,092	12,468	706	4,208	8,853	52,764	8,226	49,027
6. 30 - 34 years.....	6.30	163,188	1,028,084	204,947	1,291,168	1,955	12,316	655	4,127	7,949	50,079	7,183	45,253
7. 35 - 39 years.....	6.78	156,733	1,062,650	202,348	1,371,920	1,980	13,424	712	4,823	8,043	54,532	7,590	51,460
8. 40 - 44 years.....	7.41	151,815	1,124,949	195,948	1,451,975	1,753	12,990	544	4,031	7,395	54,797	6,823	50,558
9. 45 - 49 years.....	8.47	143,002	1,211,226	178,511	1,611,988	1,701	14,408	548	4,641	7,490	63,440	6,149	52,082
10. 50 - 54 years.....	9.58	121,250	1,161,573	146,082	1,399,466	1,577	15,108	542	5,192	7,031	67,357	5,560	53,265
11. 55 - 59 years.....	11.42	95,621	1,091,992	103,539	1,182,415	1,374	15,692	430	4,910	6,215	70,975	4,229	48,295
12. 60 - 64 years.....	14.03	77,686	1,089,933	79,226	1,111,542	1,258	17,650	363	5,093	5,855	82,145	3,421	47,997
13. 65 - 69 years.....	17.23	61,605	1,061,455	59,090	1,018,121	1,265	21,796	303	5,221	4,971	85,650	2,502	43,109
14. 70 years.....	19.47	12,082	235,236	11,553	224,938	277	5,393	81	1,577	1,065	20,736	495	9,637
15. 71 years and upwards.....	23.70	① 80,137	1,899,248	② 72,621	1,721,118	1,951	46,239	552	13,082	8,073	191,330	3,119	73,920
16. Birth - 15 years.....	6.30	907,410	5,716,683	854,542	5,383,614	11,847	74,636	3,357	21,149	50,711	319,479	39,367	248,012
17. 16 - 70 years.....	7.67	1,614,474	12,383,015	1,845,357	14,153,888	20,944	160,640	6,741	51,704	89,551	686,856	72,283	554,411
18. Birth - 70 years.....	7.526	2,521,884	18,979,699	2,689,899	20,319,440	32,791	246,785	10,098	75,998	140,262	1,055,612	111,650	840,278
19. All ages.....	7.767	2,602,021	20,209,897	2,772,520	21,534,163	34,742	286,841	10,650	82,719	148,335	1,152,118	114,769	891,411

① Includes 986 age not given.

② Includes 1725 age not given.

TABLE 5—POPULATION OF CANADA BY PROVINCES CLASSIFIED BY RURAL AND URBAN AND BY AGE GROUPS, SHOWING THE RATES OF INCAPACITATION AND TOTAL DAYS' INCAPACITY ESTIMATED IN EACH AGE GROUP, AS OF CENSUS OF 1931.—Continued.
(Males only)

Age Groups	Rate of Incapacitation	NEW BRUNSWICK			QUEBEC			ONTARIO		
		Rural		Urban	Rural		Urban	Rural		Urban
		Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons
1. Birth - 9 years.....	6.82	36,464	248,686	13,054	—89,028	152,256	1,038,386	203,450	1,387,529	139,627
2. 10 - 14 years.....	5.27	17,301	91,176	6,455	34,018	67,285	354,592	90,864	478,853	69,138
3. 15 - 19 years.....	5.24	15,958	83,620	5,985	31,361	61,809	323,879	85,730	449,225	71,542
4. 20 - 24 years.....	5.68	12,241	69,529	5,384	30,581	50,090	284,511	80,643	458,052	61,722
5. 25 - 29 years.....	5.96	9,035	53,849	4,154	24,757	36,991	220,466	76,144	453,819	53,751
6. 30 - 34 years.....	6.30	7,854	49,480	4,085	25,736	30,477	192,005	67,725	426,668	49,374
7. 35 - 39 years.....	6.78	7,758	52,599	4,283	29,039	27,688	187,725	61,457	416,678	46,717
8. 40 - 44 years.....	7.41	7,134	52,863	3,742	27,728	24,932	184,746	53,750	398,288	43,643
9. 45 - 49 years.....	8.47	6,803	57,621	3,504	29,679	22,674	192,049	46,002	389,637	40,724
10. 50 - 54 years.....	9.58	6,185	59,252	3,041	29,133	19,921	190,842	37,979	363,839	35,843
11. 55 - 59 years.....	11.42	5,226	59,681	2,380	27,180	17,241	196,892	27,840	317,933	29,630
12. 60 - 64 years.....	14.03	4,674	65,576	1,899	26,643	13,881	194,750	21,417	300,481	25,355
13. 65 - 69 years.....	17.23	3,761	64,802	1,519	26,172	11,290	194,527	16,109	277,558	21,016
14. 70 years.....	19.47	773	15,051	337	6,561	2,301	44,800	3,113	60,611	4,200
15. 71 years and upwards.....	23.70	5,699	135,067	1,932	45,788	16,654	394,700	19,411	460,041	27,693
16. Birth - 15 years.....	6.30	57,043	359,371	20,664	130,183	231,848	1,460,642	311,312	1,961,266	222,242
17. 16 - 70 years.....	7.67	84,124	645,231	39,158	300,342	306,988	2,354,598	56,911	4,302,187	470,040
18. Birth - 70 years.....	7.526	141,167	1,062,423	59,822	450,220	538,836	4,055,280	872,223	6,564,350	692,282
19. All ages.....	7.767	146,866	1,140,708	61,754	479,643	555,490	4,314,491	891,634	719,975	5,592,046

TABLE 5.—POPULATION OF CANADA BY PROVINCES CLASSIFIED BY RURAL AND URBAN AND BY AGE GROUPS, SHOWING THE RATES OF INCAPACITATION AND TOTAL DAYS' INCAPACITY ESTIMATED IN EACH AGE GROUP, AS OF CENSUS OF 1931.—Continued.
(Males only)

Age Groups	Rate of Incapacitation	MANITOBA			SASKATCHEWAN			ALBERTA		
		Rural		Urban	Rural		Urban	Rural		Urban
		Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons
1. Birth - 9 years.....	6.82	45,595	310,957	26,375	179,878	80,475	548,840	29,355	200,201	54,921
2. 10 - 14 years.....	5.27	23,541	124,061	15,427	81,300	39,952	210,547	15,654	82,497	25,990
3. 15 - 19 years.....	5.24	23,142	121,264	15,515	81,299	37,583	196,935	14,074	73,748	24,290
4. 20 - 24 years.....	5.68	19,096	108,465	13,591	77,197	32,530	184,771	11,437	64,962	23,449
5. 25 - 29 years.....	5.96	15,180	90,473	12,507	74,542	26,873	160,163	11,052	65,870	21,726
6. 30 - 34 years.....	6.30	13,080	82,404	11,289	71,121	21,380	134,694	10,337	65,123	18,382
7. 35 - 39 years.....	6.78	12,978	87,991	11,531	78,180	21,753	147,485	11,234	76,167	17,456
8. 40 - 44 years.....	7.41	12,955	95,996	12,607	93,418	22,209	164,568	12,465	92,366	17,490
9. 45 - 49 years.....	8.47	11,685	99,057	12,224	103,537	21,067	178,437	11,272	95,474	16,063
10. 50 - 54 years.....	9.58	9,318	89,266	9,674	92,677	16,215	155,340	8,177	78,336	12,573
11. 55 - 59 years.....	11.42	7,018	80,146	6,250	71,375	11,016	125,802	5,185	59,213	8,652
12. 60 - 64 years.....	14.03	5,500	77,165	4,557	63,935	7,379	103,528	3,447	48,361	6,279
13. 65 - 69 years.....	17.23	4,402	75,847	3,305	56,945	5,371	92,542	2,389	41,163	4,396
14. 70 years.....	19.47	780	15,187	572	11,136	967	18,827	477	9,288	788
15. 71 years and upwards.....	23.70	4,819	114,211	3,542	83,945	5,595	132,601	3,015	71,456	4,232
16. Birth - 15 years.....	6.30	73,761	464,694	44,884	282,769	128,062	806,791	48,022	302,539	85,813
17. 16 - 70 years.....	7.67	130,519	1,001,081	110,540	847,842	216,708	1,662,150	98,533	755,748	166,642
18. Birth - 70 years.....	7.526	204,280	1,537,411	155,424	1,169,721	344,770	2,594,739	146,555	1,102,973	252,455
19. All ages.....	7.767	209,099	1,624,072	158,966	1,234,689	350,365	2,721,285	149,570	1,161,710	256,687

TABLE 5—POPULATION OF CANADA BY PROVINCES CLASSIFIED BY RURAL AND URBAN AND BY AGE GROUPS, SHOWING THE RATES OF INCAPACITATION AND TOTAL DAYS' INCAPACITY ESTIMATED IN EACH AGE GROUP, AS OF CENSUS OF 1931.—Concluded.
(Males only)

Age Groups	Rate of Incapacitation	British Columbia				Northwest Territories and Yukon			
		Rural		Urban		Rural		Urban	
		Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity
1. Birth - 9 years.....	6.82	27,410	186,936	28,826	196,594	1,651	11,260	63	429
2. 10 - 14 years.....	5.27	13,625	71,804	16,555	87,245	705	3,715	33	174
3. 15 - 19 years.....	5.24	13,719	71,887	18,086	94,771	589	3,086	54	283
4. 20 - 24 years.....	5.68	13,232	75,158	15,823	89,874	515	2,925	87	494
5. 25 - 29 years.....	5.96	13,506	80,496	15,307	91,229	498	2,968	66	393
6. 30 - 34 years.....	6.30	12,232	77,061	14,055	88,547	505	3,182	54	340
7. 35 - 39 years.....	6.78	11,906	80,723	15,674	106,269	454	3,078	45	306
8. 40 - 44 years.....	7.41	13,831	102,488	19,544	144,821	473	3,505	39	289
9. 45 - 49 years.....	8.47	14,401	121,976	20,072	170,010	384	3,253	71	601
10. 50 - 54 years.....	9.58	12,204	116,914	16,605	159,076	383	3,669	88	843
11. 55 - 59 years.....	11.42	8,947	102,174	11,035	126,020	302	3,449	98	1,119
12. 60 - 64 years.....	14.03	7,217	101,254	7,998	112,212	288	4,040	95	1,333
13. 65 - 69 years.....	17.23	4,974	85,702	5,299	91,302	159	2,740	63	1,085
14. 70 years.....	19.47	894	17,406	928	18,068	37	720	13	254
15. 71 years and upwards.....	23.70	5,267	124,828	6,047	143,314	154	3,650	73	1,730
16. Birth - 15 years.....	6.30	43,592	274,630	48,885	307,975	2,491	15,693	98	617
17. 16 - 70 years.....	7.67	124,506	954,961	156,922	1,203,592	4,452	34,147	771	5,913
18. Birth - 70 years.....	7.526	168,098	1,265,106	205,807	1,548,903	6,943	52,253	869	6,540
19. All ages.....	7.767	173,365	1,346,526	211,854	1,645,470	7,097	55,122	942	7,317

TABLE 6 — POPULATION OF CANADA BY PROVINCES CLASSIFIED BY RURAL AND URBAN AND BY AGE GROUPS, SHOWING THE RATES OF INCAPACITATION AND TOTAL DAYS' INCAPACITY, ESTIMATED IN EACH AGE GROUP, AS OF CENSUS OF 1931.
(Females, exclusive of confinements)

Age Groups	Rate of Incapacitation	CANADA				PRINCE EDWARD ISLAND				NOVA SCOTIA			
		Rural		Urban		Rural		Urban		Rural		Urban	
		Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity
1. 16 - 19 years.....	4.21	179,644	756,301	232,889	980,463	2,438	10,264	999	4,206	10,316	43,430	10,468	44,070
2. 20 - 24 years.....	5.17	173,495	896,969	273,968	1,416,415	2,084	10,774	1,110	5,739	9,294	48,050	11,110	57,439
3. 25 - 29 years.....	5.53	144,894	801,264	231,411	1,279,703	1,687	9,329	832	4,601	7,445	41,171	8,754	48,410
4. 30 - 34 years.....	6.01	133,454	802,059	207,247	1,245,554	1,727	10,379	669	4,021	7,242	42,825	7,348	45,363
5. 35 - 39 years.....	6.71	129,329	867,797	200,053	1,342,356	1,785	11,977	735	4,932	7,356	49,359	7,688	51,586
6. 40 - 44 years.....	7.13	117,168	835,408	181,168	1,291,728	1,555	11,087	682	4,863	6,566	46,816	6,705	47,807
7. 45 - 49 years.....	8.08	105,489	852,351	158,209	1,278,329	1,544	12,476	593	4,791	6,568	53,069	5,982	48,335
8. 50 - 54 years.....	8.60	89,817	772,426	131,552	1,131,175	1,486	12,780	554	4,764	5,910	50,826	5,191	44,643
9. 55 - 59 years.....	9.21	70,937	653,330	96,928	892,707	1,253	11,540	416	3,831	5,408	49,808	4,080	37,577
10. 60 - 64 years.....	10.44	58,219	607,806	79,466	829,625	1,144	11,943	395	4,124	4,857	50,707	3,278	34,222
11. 65 - 69 years.....	12.97	47,207	612,275	63,232	820,119	1,063	13,787	373	4,838	4,409	57,185	2,639	34,228
12. 70 years.....	14.49	9,607	139,205	13,616	197,296	232	3,362	105	1,521	945	13,693	562	8,143
13. 71 years and upwards....	18.24	(1) 65,869	1,201,451	(2) 82,983	1,513,610	1,888	34,438	627	11,436	7,990	145,737	3,983	72,650
14. Birth - 15 years.....	4.85	875,838	4,247,814	848,576	4,115,594	11,285	54,732	3,385	16,418	48,551	235,472	38,897	188,651
15. Birth - 70 years.....	5.967	2,135,098	12,740,130	2,718,295	16,220,066	29,283	174,732	10,848	64,730	124,867	745,082	112,902	673,686
16. 16 - 49 years.....	5.986	983,473	5,882,054	1,484,945	8,881,307	12,820	76,675	5,620	33,613	54,787	327,676	58,255	348,417
17. 50 - 70 years.....	6.557	1,259,260	8,256,968	1,869,719	12,259,747	17,998	118,013	7,463	48,935	76,316	500,404	74,005	485,251
18. All ages.....	6.145	2,290,967	13,524,943	2,801,278	17,213,853	31,171	191,546	11,475	70,514	132,857	816,406	116,885	718,259

(1) Includes 369 age not given.

(2) Includes 691 age not given.

TABLE 6—POPULATION OF CANADA BY PROVINCES CLASSIFIED BY RURAL AND URBAN AND BY AGE GROUPS, SHOWING THE RATES OF INCAPACITATION AND TOTAL DAYS' INCAPACITY, ESTIMATED IN EACH AGE GROUP, AS OF CENSUS OF 1931.—Continued.
 (Females, exclusive of confinements)

Age Groups	NEW BRUNSWICK				QUEBEC				ONTARIO			
	Rural		Urban		Rural		Urban		Rural		Urban	
	Rate of Incapacitation	Number of Persons	Total days' Incapacity	Number of Persons								
1. 16 - 19 years.....	4.21	10,782	45,392	5,869	24,709	44,195	186,061	77,892	327,925	44,043	185,421	81,327
2. 20 - 24 years.....	5.17	10,074	52,083	6,695	34,613	42,106	217,688	94,277	487,412	45,359	234,506	98,153
3. 25 - 29 years.....	5.53	8,006	44,273	5,121	28,319	32,171	177,906	81,116	448,571	42,187	233,294	86,593
4. 30 - 34 years.....	6.01	7,240	43,512	4,695	28,217	27,367	164,476	68,609	412,340	41,692	250,569	81,691
5. 35 - 39 years.....	6.71	7,143	47,929	4,728	31,725	24,546	164,703	60,377	405,130	40,428	271,272	80,519
6. 40 - 44 years.....	7.13	6,261	44,641	3,873	27,614	21,396	152,554	52,609	375,102	37,065	264,273	73,500
7. 45 - 49 years.....	8.08	5,814	46,977	3,584	28,950	19,153	154,756	43,807	363,961	33,366	269,597	64,748
8. 50 - 54 years.....	8.60	5,150	44,290	2,944	25,318	16,190	139,234	36,530	314,158	30,196	259,686	55,869
9. 55 - 59 years.....	9.21	4,286	39,474	2,433	22,408	14,116	130,008	27,778	255,836	24,451	225,194	42,366
10. 60 - 64 years.....	10.44	3,701	38,638	2,128	22,217	11,520	120,269	22,482	234,712	20,949	218,708	36,237
11. 65 - 69 years.....	12.97	3,192	41,400	1,737	22,529	9,630	124,901	17,674	229,232	17,144	222,358	29,357
12. 70 years.....	14.49	686	9,940	408	5,912	1,898	27,502	3,652	52,918	3,549	51,425	6,652
13. 71 years and upwards.....	18.24	5,031	91,766	2,326	42,426	14,176	258,570	22,940	418,426	23,522	429,041	39,283
14. Birth - 15 years.....	4.85	55,047	266,978	20,645	100,128	226,695	1,009,471	312,229	1,514,310	211,765	1,027,060	290,828
15. Birth - 70 years.....	5.967	127,382	760,088	64,860	387,020	490,983	2,929,695	899,032	5,364,524	592,194	3,533,622	1,027,840
16. 16 - 49 years.....	5.9809	55,320	330,863	34,565	206,730	210,934	1,261,575	478,687	2,862,979	284,140	1,699,413	566,531
17. 16 - 70 years.....	6.557	72,335	44,215	289,918	264,288	1,732,937	586,803	3,847,667	380,429	2,494,473	737,012	4,832,588
18. All ages.....	6.145	132,413	813,678	67,186	412,858	505,159	3,104,202	921,972	5,665,518	615,716	3,783,575	1,067,123

TABLE 6—POPULATION OF CANADA BY PROVINCES CLASSIFIED BY RURAL AND URBAN AND BY AGE GROUPS, SHOWING THE RATES OF INCAPACITATION AND TOTAL DAYS' INCAPACITY, ESTIMATED IN EACH AGE GROUP, AS OF CENSUS OF 1931.—Continued.
(Females, exclusive of confinements)

Age Groups	MANITOBA			SASKATCHEWAN			ALBERTA						
	Rural	Urban	Total days' Incapacity	Rural	Urban	Total days' Incapacity	Rural	Urban	Total days' Incapacity				
Rate of Incapacitation	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity			
1. 16 - 19 years.....	4.21	15,713	66,152	15,175	63,887	25,697	108,185	13,547	57,033	16,705	70,328	12,383	52,132
2. 20 - 24 years.....	5.17	14,064	72,711	17,608	91,033	23,665	122,348	14,263	73,740	16,584	85,739	13,813	71,413
3. 25 - 29 years.....	5.53	11,722	64,823	13,038	72,100	18,306	101,232	11,228	62,091	14,237	78,731	10,811	59,785
4. 30 - 34 years.....	6.01	10,520	63,279	11,135	66,921	16,182	97,254	10,019	60,214	12,610	75,786	9,654	58,021
5. 35 - 39 years.....	6.71	10,857	72,850	11,745	78,809	16,107	108,078	10,229	68,637	11,888	79,768	9,890	66,362
6. 40 - 44 years.....	7.13	9,725	69,339	11,005	78,466	15,001	106,957	9,193	65,546	10,670	76,077	9,475	67,557
7. 45 - 49 years.....	8.08	8,489	68,591	9,829	79,418	12,923	104,418	7,813	63,129	9,281	74,991	8,304	67,096
8. 50 - 54 years.....	8.60	6,579	56,579	7,518	64,655	9,947	85,544	5,701	49,029	7,320	62,952	6,157	52,950
9. 55 - 59 years.....	9.21	4,938	45,479	4,964	45,718	6,499	59,856	3,590	33,064	4,949	45,580	3,867	35,615
10. 60 - 64 years.....	10.44	3,889	40,601	3,853	40,225	4,727	49,350	2,660	27,770	3,582	37,996	2,858	29,338
11. 65 - 69 years.....	12.97	2,965	38,456	2,925	37,387	3,470	45,006	2,152	27,911	2,561	33,216	2,157	27,977
12. 70 years.....	14.49	565	8,187	585	8,477	677	9,810	412	5,970	491	7,114	414	5,999
13. 71 years and upwards.....	18.24	3,676	67,050	3,611	65,865	3,945	71,957	2,730	49,795	2,625	47,880	2,591	47,260
14. Birth - 15 years.....	4.85	71,360	346,096	44,012	213,458	123,369	598,340	47,798	231,820	82,907	402,099	42,622	206,717
15. Birth - 70 years.....	5.967	171,395	1,022,714	163,392	915,290	276,570	1,650,293	138,605	827,056	193,755	1,156,315	132,405	790,061
16. 16 - 49 years.....	5.9809	81,099	485,045	89,535	535,500	127,881	764,843	76,292	456,205	91,975	550,094	74,330	444,560
17. 16 - 70 years.....	6.557	400,035	655,930	109,380	717,204	153,201	1,004,539	90,807	595,421	110,878	727,027	89,783	588,707
18. All ages.....	6.145	175,071	1,075,811	157,003	964,784	280,515	1,723,765	141,335	868,503	196,410	1,206,940	134,996	829,550

TABLE 6—POPULATION OF CANADA BY PROVINCES CLASSIFIED BY RURAL AND URBAN AND BY AGE GROUPS, SHOWING THE RATES OF INCAPACITATION AND TOTAL DAYS' INCAPACITY, ESTIMATED IN EACH AGE GROUP, AS OF CENSUS OF 1931.—Concluded.
(Females, exclusive of confinements)

Age Groups	Rate of Incapaci-tation	BRITISH COLUMBIA				NORTHWEST TERRITORIES AND YUKON		
		Rural		Urban		Number of Persons	Total days' Incapacity	Number of Persons
		Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity			
1. 16 - 19 years.....	4.21	9,306	39,178	15,201	63,996	449	1,890	28
2. 20 - 24 years.....	5.17	9,832	50,831	16,910	87,425	433	2,239	29
3. 25 - 29 years.....	5.53	8,727	48,260	13,901	76,873	406	2,245	17
4. 30 - 34 years.....	6.01	8,440	50,724	13,200	79,332	425	2,554	27
5. 35 - 39 years.....	6.71	8,883	59,605	14,108	94,665	336	2,255	34
6. 40 - 44 years.....	7.13	8,647	61,653	14,091	100,469	282	2,011	35
7. 45 - 49 years.....	8.08	8,099	65,440	13,514	109,193	252	2,036	35
8. 50 - 54 years.....	8.60	6,853	58,936	11,038	94,927	186	1,600	30
9. 55 - 59 years.....	9.21	4,905	45,175	7,409	68,237	132	1,216	25
10. 60 - 64 years.....	10.44	3,735	38,983	5,563	58,078	115	1,201	12
11. 65 - 69 years.....	12.97	2,723	35,317	4,209	54,591	50	649	9
12. 70 years.....	14.49	547	7,926	822	11,911	17	246	4
13. 71 years and upwards....	18.24	2,929	53,425	4,883	89,066	87	1,587	9
14. Birth - 15 years.....	4.85	42,533	206,285	48,036	232,975	2,326	11,281	124
15. Birth - 70 years.....	5.967	123,230	735,313	178,002	1,062,138	5,409	32,276	409
16. 16 - 49 years.....	5.9809	61,934	370,421	100,925	603,622	2,583	15,449	205
17. 16 - 70 years.....	6.557	80,697	529,130	129,966	852,187	3,083	20,215	285
18. All ages.....	6.145	126,159	775,247	182,885	1,123,828	5,496	33,773	418
								2,568

TABLE 7 — POPULATION OF CANADA BY PROVINCES CLASSIFIED BY RURAL AND URBAN AND BY AGE GROUPS, SHOWING THE RATES OF INCAPACITATION AND TOTAL DAYS' INCAPACITY, ESTIMATED IN EACH AGE GROUPS, AS OF CENSUS OF 1931.
 (Females, including confinements)

Age Groups	Rate of Incapacitation	CANADA				PRINCE EDWARD ISLAND				NOVA SCOTIA			
		Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity
1. 16 - 19 years.....	5.02	179,644	901,813	232,889	1,169,103	2,438	12,239	999	5,015	10,316	51,786	10,468	52,549
2. 20 - 24 years.....	8.23	173,495	1,427,864	273,968	2,254,757	2,084	17,151	1,110	9,135	9,294	76,490	11,110	91,435
3. 25 - 29 years.....	9.63	144,894	1,395,329	231,411	2,228,488	1,687	16,246	832	8,012	7,445	71,695	8,754	84,301
4. 30 - 34 years.....	9.33	133,454	1,245,126	207,247	1,933,615	1,727	16,113	669	6,242	7,242	67,568	7,548	70,423
5. 35 - 39 years.....	8.99	129,329	1,162,668	200,053	1,788,476	1,785	16,047	735	6,008	7,356	66,130	7,688	69,115
6. 40 - 44 years.....	8.08	117,168	946,717	181,168	1,463,837	1,555	12,564	682	5,511	6,566	53,053	6,705	*54,176
7. 45 - 49 years.....	8.35	105,489	880,833	158,209	1,321,045	1,544	12,892	583	4,952	6,568	54,843	5,982	49,950
8. Birth - 70 years.....	7.341	2,135,098	15,673,754	2,718,295	19,955,004	29,283	214,967	10,848	79,635	124,867	916,649	112,902	828,814
9. 16 - 49 years.....	8.4655	933,473	325,591	1,484,945	12,570,802	12,820	108,528	5,620	47,576	54,787	463,799	58,255	493,158
10. 16 - 70 years.....	8.65768	1,259,260	902,270	1,869,719	16,187,429	17,998	155,821	7,463	64,612	76,316	660,720	74,005	640,712
11. All ages.....	7.4992	2,200,967	16,505,492	2,801,278	21,007,344	31,171	233,758	11,475	86,053	132,857	906,321	116,885	876,544

TABLE 7—POPULATION OF CANADA BY PROVINCES CLASSIFIED BY RURAL AND URBAN AND BY AGE GROUPS, SHOWING THE RATES OF INCAPACITATION AND TOTAL DAYS' INCAPACITY, ESTIMATED IN EACH AGE GROUP, AS OF CENSUS OF 1931.—Continued.
(Females, including confinements)

Age Groups	Rate of Incapacitation	NEW BRUNSWICK				QUEBEC				ONTARIO			
		Rural		Urban		Rural		Urban		Rural		Urban	
		Number of Persons	Total days' Incapacity										
1. 16 - 19 years.....	5.02	10,782	54,126	5,869	29,462	44,195	221,559	77,892	391,018	44,043	221,096	81,327	408,261
2. 20 - 24 years.....	8.23	10,074	82,909	6,695	55,100	42,106	346,532	94,277	775,900	45,359	373,305	98,153	807,799
3. 25 - 29 years.....	9.63	8,006	77,098	5,121	49,315	32,171	309,307	81,116	781,147	42,187	406,261	86,593	833,891
4. 30 - 34 years.....	9.33	7,240	67,549	4,695	43,804	27,367	255,334	68,609	640,122	41,692	388,986	81,691	762,177
5. 35 - 39 years.....	8.99	7,143	64,216	4,728	42,505	24,546	220,669	60,377	542,789	40,428	363,448	80,519	723,866
6. 40 - 44 years.....	8.08	6,261	50,589	3,873	31,294	21,396	172,880	52,609	425,081	37,065	299,485	73,500	593,880
7. 45 - 49 years.....	8.35	5,814	48,547	3,584	29,926	19,153	159,928	43,807	365,788	33,366	278,606	64,748	540,646
8. Birth - 70 years.....	7.341	127,382	935,111	64,860	476,137	490,983	3,604,306	899,032	6,599,794	592,194	4,347,296	1,027,840	7,545,373
9. 16 - 49 years.....	8.4635	55,320	468,311	34,565	292,610	210,934	1,785,662	478,687	4,052,325	284,140	2,405,387	566,531	4,795,968
10. 16 - 70 years.....	8.65768	72,335	626,253	44,215	382,799	264,288	2,288,121	586,803	5,080,353	380,429	3,293,633	737,012	6,380,814
11. All ages.....	7.4992	132,413	992,992	67,186	503,841	505,159	3,788,289	921,972	6,914,052	615,716	4,617,377	1,067,123	8,002,569

TABLE 7—POPULATION OF CANADA BY PROVINCES CLASSIFIED BY RURAL AND URBAN AND BY AGE GROUPS, SHOWING THE RATES OF INCAPACITATION AND TOTAL DAYS' INCAPACITY, ESTIMATED IN EACH AGE GROUP, AS OF CENSUS OF 1931.—Continued.
(Females, including confinements)

Age Groups	Rate of Incapacitation	MANITOBA			SASKATCHEWAN			ALBERTA						
		Rural		Urban	Rural		Urban	Rural		Urban				
		Number of Persons	Total days' Incapacity	Number of Persons										
1.	16 – 19 years.....	5.02	15,713	78,879	15,175	76,179	25,697	128,999	13,547	68,006	16,705	83,859	12,383	62,163
2.	20 – 24 years.....	8.23	14,064	115,747	17,608	144,914	23,665	194,763	14,263	117,384	16,584	136,486	13,813	13,681
3.	25 – 29 years.....	9.63	11,722	112,883	13,038	125,556	18,306	176,287	11,223	108,126	14,237	137,102	10,811	104,110
4.	30 – 34 years.....	9.33	10,529	98,236	11,135	103,890	16,182	150,978	10,019	93,477	12,610	117,651	9,654	90,072
5.	35 – 39 years.....	8.99	10,857	97,604	11,745	105,588	16,107	144,802	10,229	91,959	11,888	106,873	9,890	88,911
6.	40 – 44 years.....	8.08	9,725	78,578	11,005	88,920	15,001	121,208	9,193	74,279	10,670	86,214	9,475	76,558
7.	45 – 49 years.....	8.35	8,489	70,883	9,829	82,072	12,923	107,907	7,813	65,239	9,281	77,496	8,304	69,338
8.	Birth – 70 years.....	7.341	171,395	1,258,211	153,392	1,126,051	276,570	2,030,300	138,605	1,017,499	193,785	1,422,576	132,405	971,985
9.	16 – 49 years.....	8.4655	81,099	686,544	89,535	757,959	127,881	1,082,577	76,292	645,850	91,975	778,614	74,330	629,241
10.	16 – 70 years.....	8.65768	100,035	866,071	109,380	946,977	183,201	1,326,365	90,807	786,178	110,878	959,946	89,783	777,312
11.	All ages.....	7.4992	175,071	1,312,892	157,003	1,177,397	280,515	2,103,638	141,355	1,059,900	196,410	1,472,918	134,996	1,012,362

TABLE 7.—POPULATION OF CANADA BY PROVINCES CLASSIFIED BY RURAL AND URBAN AND BY AGE GROUPS, SHOWING THE RATES OF INCAPACITATION AND TOTAL DAYS' INCAPACITY, ESTIMATED IN EACH AGE GROUP, AS OF CENSUS OF 1931.—Concluded.
(Females, including confinements)

Age Groups	Rate of Incapaci- tation 	BRITISH COLUMBIA				NORTHWEST TERRITORIES AND YUKON			
		Rural		Urban		Rural		Urban	
		Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity	Number of Persons	Total days' Incapacity
1.	16 - 19 years.....	5,02	9,306	46,716	15,201	76,309	449	2,254	28
2.	20 - 24 years.....	8.23	9,832	80,917	16,910	139,169	433	3,564	29
3.	25 - 29 years.....	9.63	8,727	84,041	13,901	133,887	406	3,910	17
4.	30 - 34 years.....	9.33	8,440	78,745	13,200	123,156	425	3,965	27
5.	35 - 39 years.....	8.99	8,883	79,858	14,108	126,831	336	3,021	34
6.	40 - 44 years.....	8.08	8,647	69,868	14,091	113,855	282	2,279	35
7.	45 - 49 years.....	8.35	8,099	67,627	13,514	112,842	252	2,104	35
8.	Birth - 70 years.....	7.341	123,230	904,631	178,002	1,306,713	5,409	39,708	409
9.	16 - 49 years.....	8.4655	61,934	524,302	100,925	854,381	2,563	21,866	205
10.	16 - 70 years.....	8.65768	80,697	698,649	129,966	1,125,204	3,083	26,692	285
11.	All ages.....	7.4992	126,159	946,092	182,885	1,371,491	5,496	41,215	3,135

CHAPTER XII

APPENDIX 2

Under and Over-Estimation of Estimated Canadian Rates to All Ages

SHOWING UNDER-ESTIMATES AND OVER-ESTIMATES OF SICKNESS DAYS FOR MALES, FEMALES (EXCLUSIVE OF CONFINEMENTS) AND FEMALES (INCLUDING CONFINEMENTS) AND GIVEN BY PROVINCES AND FOR CANADA AS A WHOLE.

Males	Females - exclusive	Females - inclusive	Males	Females - exclusive	Females - inclusive
Prince Edward Island:			Saskatchewan:		
(a) 380,556	298,953	338,241	(a) 3,679,304	2,544,083	2,988,636
(b) 352,560	262,060	319,811	(b) 3,882,995	2,592,268	3,163,538
- 27,996	- 36,893	- 18,430	+ 203,691	+ 48,185	+ 174,902
Nova Scotia:			Alberta:		
(a) 2,124,502	1,691,972	1,937,056	(a) 2,984,002	2,026,379	2,393,107
(b) 2,043,529	1,534,665	1,872,865	(b) 3,108,346	2,036,490	2,485,280
- 80,973	- 157,307	- 64,191	+ 124,344	+ 10,111	+ 92,173
New Brunswick:			British Columbia:		
(a) 1,842,255	1,302,387	1,499,864	(a) 3,136,159	2,043,486	2,389,643
(b) 1,820,351	1,226,536	1,496,833	(b) 2,991,996	1,899,075	2,317,583
- 21,904	- 75,851	- 3,031	- 144,163	- 144,411	- 72,060
Quebec:			Northwest Territories and Yukon:		
(a) 10,834,083	8,948,132	10,528,401	(a) 64,912	35,847	42,106
(b) 11,239,812	8,769,720	10,702,341	(b) 62,439	36,341	44,350
+ 405,729	- 178,412	+ 173,940	- 2,473	+ 494	+ 2,244
Ontario:			CANADA:		
(a) 13,912,128	11,402,728	13,288,342	(a) 41,550,876	32,381,130	37,864,108
(b) 13,583,271	10,341,046	12,619,946	(b) 41,744,060	30,738,786	37,512,836
- 328,857	- 1,061,682	- 668,396	+ 193,184	- 1,642,334	- 351,272
Manitoba:					
(a) 2,792,975	2,087,163	2,458,712			
(b) 2,858,761	2,040,595	2,490,289			
+ 65,786	- 46,568	+ 31,577			

NOTE: (1) The figures in the first column under the sex heading represent the total sickness days, the first figures (a) are those calculated at the estimated Canadian rate while the others (b) are those calculated at the estimated Canadian rate for all ages (unadjusted for age composition), applied to the population of Canada and the provinces at the Census of 1931.

(2) - means the Canadian rate (unadjusted for age composition) under-estimates.

+ means the Canadian rate (unadjusted for age composition) over-estimates.

MALES THE PERCENTAGE AGE DISTRIBUTION OF MALES IN CANADA ACCORDING TO THE 1931 CENSUS WAS AS FOLLOWS:

	Birth to 9	10-24	25-44	45-64	Over 65	Province	% Over	Number of Males
GROUP 1.	21.96	30.24	27.47	16.76	3.53	Saskatchewan.....	5.2	203,691
	20.08	28.39	29.82	18.17	3.71	Alberta.....	4.0	124,344
	24.57	30.16	26.21	14.30	4.74	Quebec.....	3.6	405,729
	19.56	29.97	27.74	17.99	4.70	Manitoba.....	2.3	65,786
GROUP 2.	23.73	30.36	23.02	16.16	6.69	New Brunswick.....	% Under 1.6	21,904
	18.58	27.02	29.07	18.73	6.57	Ontario.....	2.4	328,857
	21.28	19.97	23.58	17.47	7.66	Nova Scotia.....	3.9	80,973
	14.60	23.63	30.12	25.57	5.72	British Columbia.....	4.1	144,163
	20.89	29.27	22.90	17.16	9.74	Prince Edward Island.....	7.9	27,996
	20.76	28.50	27.63	17.58	5.88	CANADA.....	—	—
	26.16	28.80	28.86	13.67	1.53	Northwest Territories.....	—	—
	12.39	17.03	22.26	35.19	12.40	Yukon.....	—	—

NOTE: The double-line block distinguishes the highest and the single-line block the lowest percentage figure amongst the Provinces

If the estimated Canadian all ages total (unadjusted for age composition) for males does not agree, it must be because the 'weighting' of the various age-groups differs.

The four provinces where this all ages total is too great are broadly speaking the provinces where, as in Quebec, there are more than the normal number of young people. If sickness among the young is less than the average morbidity, this would explain why the estimated Canadian all ages total (unadjusted for age composition) over-estimates morbidity in Group 1 and under-estimates it in Group 2.

But on closer inspection of the figures we see that this first generalization is only broadly true. The marked under-estimation of morbidity in Prince Edward Island is clearly due to the quite abnormal percentage of elderly people over 65. The slight under-estimation of morbidity in New Brunswick is clearly *not* due to relative scarcity of young people. Since their figure approaches that of Quebec it is presumably due to the tendency of people in the prime of life to migrate from the province.

Conclusion—The above considerations lend force, we think, to the desirability of *not* using the 7.767

rate for all ages, without full explanation, and a warning that the totals obtained by addition are a closer approximation to the truth.

The first point is that whereas the estimated Canadian unadjusted aggregate total *over-estimated* the male incapacity by 193,184 days, the same Canadian aggregate *under-estimates* the female incapacity by 1,642,334 days. Presumably, therefore, there is an element of error due to the males of the healthier age groups being more, and the females of these groups being less numerous than in the Austrian age-distribution. If one takes 10-24 as the healthiest age group, it will be seen that the percentage of males in Canada of this group is 28.50, of females 29.85, but the significant comparison is not between males and females in Canada, but between the age distributions in Canada as against those in the Austrian sphere.

Taking the figures, exclusive of confinements, the Canadian unadjusted aggregate shows a considerable under-estimate of female incapacity, and this must be due to the differing age distribution, and means that there is a larger proportion of Canadian women in the unhealthier years than is the case for Austria. If this is true we should expect to find those provinces

FEMALES

THE PERCENTAGE AGE DISTRIBUTION OF FEMALES IN CANADA ACCORDING TO THE 1931 CENSUS WAS AS FOLLOWS:

Birth - 9	10-24	25-44	45-64	Over 65		Exclusive of confinements		Inclusive of confinements	
						Variation	%	%	Variation
25.25	33.59	25.19	12.77	2.23	Saskatchewan.....	+ 48,185	+ 1.8	+5.5	+174,902
23.88	31.95	26.93	13.98	3.26	Alberta.....	+ 10,111	+ 0.5	+3.7	+ 92,173
21.18	32.40	27.03	15.08	4.28	Manitoba.....	- 46,568	- 2.2	+1.2	+ 31,577
24.60	31.28	25.80	13.42	4.88	Quebec.....	- 178,412	- 2.0	+1.6	+173,940
17.76	27.12	29.12	19.77	5.16	British Columbia.....	- 144,411	- 7.6	-3.1	- 72,060
24.24	30.42	23.59	15.05	6.69	New Brunswick.....	- 75,851	- 6.1	-0.2	- 3,031
18.76	27.08	28.74	18.31	7.08	Ontario.....	- 1,061,682	-10.2	-5.2	-668,396
21.81	29.71	23.74	16.54	5.71	Nova Scotia.....	- 157,307	-10.2	-3.4	- 64,191
21.61	28.33	17.69	17.31	10.06	Prince Edward Island.....	- 36,893	-14.1	-5.7	- 18,430
21.82	29.85	26.87	15.80	5.63	CANADA.....	- 1,642,334			-351,272
29.68	29.27	26.64	11.69	2.02	Northwest Territories.....	+ 494			+ 2,244
24.06	27.97	25.69	18.60	3.56	Yukon.....				

NOTE: The double-line block distinguishes the highest and the single-line block the lowest percentage figure amongst the Provinces.

with the greatest proportion in the healthier years showing the least under-estimate, or possibly an over-estimate, and this is so.

PERCENTAGE AGE DISTRIBUTION

	Sask.	Alta.	Man.	Que.	CANADA	Ont.	N.S.	P.E.I.
Healthier years (Birth to 24)	58.84	55.83	53.58	55.88	51.77	45.84	51.52	49.94
Unhealthier years (45 and over)	15.0	17.24	19.36	18.30	21.43	25.39	22.25	27.87
Percentage error	+1.8	+0.5	-2.2	-2.0	—	-10.2	-10.2	-14.1

It has been suggested that incapacity due to confinements is relatively less in Canada than in Austria, due to fewer births and shorter periods of hospitalization and lying up. Taking the figures, inclusive of confinements, the under-estimate drops to only 351,272 which seems to suggest that such may be the case. There are no data available to substantiate this supposition and it should be remembered that to a considerable extent the rates are affected by the difference in the age composition of the females within the maternity exposure ages, 16 to 49 years.

It will be seen that the over-estimated provinces for females inclusive of confinements are exactly the same as the over-estimated provinces for males and occur in the same order: these are the provinces where there are more than the Canadian normal of young people. The under-estimation in Prince Edward Island is again due to the abnormal number of elderly people and this is partly the cause in Ontario, which province has the smallest percentage in the healthy 10-24 group.

That 'including confinements' should change the under-estimate of the 'excluding confinements' figure to an over-estimate in Manitoba and Quebec may seem strange in the light of the facts that, per 1,000 of the population, Quebec has the highest birth rate in Canada (1931: Canada 23.2, Quebec 29.1) and Manitoba has the highest marriage rate (1931: Canada 6.4, Manitoba 7.0). The explanation would seem to

require a tribute to the hardihood of the women of these provinces.

Whereas, the estimated Canadian total figures (unadjusted for age composition) under-estimate both British Columbia and Ontario, it may be noticed that the under-estimation is relatively greater for males in British Columbia and for females in Ontario.

DESCENDING ORDER OF UNDER-ESTIMATION.

	Males	Females (excluding)	Females (including)
Least under-estimate	N.B.	N.B.	N.B.
	Ont.	B.C.	B.C.
	N.S.	N.S.	N.S.
	B.C.	Ont.	Ont.
Greatest under-estimate	P.E.I.	P.E.I.	P.E.I.

It has been suggested that the provinces where the Canadian unadjusted total is not great enough are those with fewer young people, and since there is a distinctly lower per cent of young males in British Columbia than in Ontario and *not* a significantly lower per cent of young females, this explains the reversal of position of British Columbia and Ontario in the above table.

PERCENTAGE OF TOTAL

	Young males	Young Females
Ontario	45.60	45.84
British Columbia	38.23	44.88
Canada	49.26	51.77

Conclusion: These considerations of the female tables re-inforce the conclusion from the male tables, viz., that a more accurate figure for total morbidity either for a province or for Canada is obtained by adding the age-group figures rather than by using the estimated Canadian all ages (unadjusted for age composition) aggregate morbidity rates.

CHAPTER XII
APPENDIX 3

Births in Canada During 1931 Applied to the Maternity Exposure Period

This appendix reviews the total maternity days in Chapter XII — Morbidity, with the confinements given in the Vital Statistics of Canada.

The total days in the "maternity exposure period" for females, aged 16 to 49 years, in the morbidity tables may be effectively tested as to their accuracy by fitting them to the actual confinements as shown in the Vital Statistics of Canada for 1931.

In the following table the births in Canada during the year 1931 have been transposed to confinements:

Type of Birth	Total Births	Total Confinements
Single live births	234,845	234,845
Multiple Births ¹ :		
(a) Twin Births	5,932	2,966
(b) Triplet Births	63	21
(c) Quadruplet Births	4	1
Stillbirths	7,248	7,248
Totals	248,092	245,081

¹ Includes both Live Births and Stillbirths.

The omission of births from the Vital Statistics of Canada, due to late (delayed) registration of births is estimated by the Census Analysis Branch of the Dominion Bureau of Statistics to be in the neighbourhood of 5 per cent of the total registered births. The 5 per cent omission has been established fairly conclusively by cross checks between census enumeration and birth registration. This would suggest an additional 12,254 confinements, or a total of 257,335 confinements for the year 1931.

The average period of hospitalization for a maternity case in Canada is reckoned at 10 days, with an average incapacity period of 12 days for after care or lying up. Some maternity cases may exceed the total incapacity period of 22 days, while in other cases the mothers return to their normal duties in a much shorter period of time. It is safe to assume, however, that the average incapacity period for females in Canada is 22 days.

The total maternity days (i.e.: the difference between the total female incapacity days, including confinements, and the total female incapacity days, excluding confinements) is estimated in this study at the estimated Canadian rate to be 5,482,978 in 1931.

The total maternity days divided by the total Vital Statistics confinements for the same year gives

us a rate of 21.31 incapacity days for each confinement in 1931. Based upon these facts the total days in the "maternity exposure period" applied to the total Vital Statistics confinements for Canada in the same year indicates a close correlation between the two.

Using the estimated Canada figures (unadjusted for age composition) we find a much higher incapacity rate for each maternity case because the females, including confinements at the rate of 7.4992 or 37,512,836 sickness days, less the females, excluding confinements at the rate of 6.145 or 30,738,796 sickness days gives a total of 6,774,040 maternity days for Canada in 1931.

Again dividing the total maternity days by the confinements for the same year gives us a rate of 26.32 incapacity days per confinement in 1931.

The estimated Canadian incapacity rate (unadjusted for age composition) for confinements is somewhat higher than the estimated Canadian rate, but the above indicates that the reason for the lower incapacity due to confinements in Canada, mentioned on page 364 of Appendix 2 may be influenced by shorter periods of hospitalization and lying up, in addition to the variance in age composition in Austria and Canada.

Assuming the Canadian rate of 21.31 days incapacity per individual confinement to be representative of the females in the "maternity exposure period", 16 to 49 years of age, in Canada in 1931, the incapacitation caused by childbirth over the past ten years is shown in the following table.

Year	Confinements ²	Maternity Days
1931	257,335	5,482,978
1932	252,102	5,372,294
1933	238,355	5,079,345
1934	236,310	5,035,766
1935	236,504	5,039,900
1936	235,267	5,013,540
1937	235,052	5,008,958
1938	244,804	5,216,773
1939	244,271	5,205,415
1940	260,561	5,552,555

¹ The Canadian females (including confinements) at the rate of 7.57 or 37,864,108 sickness days, less the Canadian females (excluding confinements) at the rate of 6.47 or 32,381,130 sickness days, gives a total of 5,482,978 maternity days for Canada in 1931.

² Plus 5% omission for delayed registration of births.

CHAPTER XII

APPENDIX 4

A Summary of Sickness in the Civil Service of Canada

An outstanding Canadian study of morbidity in a selected group of the population is that conducted by the Department of Pensions and National Health of Canada. This statistical study of illness in the Civil Service of Canada was conducted over a period of four fiscal years, namely, 1935-36, 1936-37, 1937-38 and 1938-39, inclusive. The data collected and analysed in the four reports on illness among civil servants is of paramount importance in the particular field of national morbidity, owing to the representative portion of the population that is covered in the survey.

COVERAGE OF THE SURVEYS. — The Civil Service of Canada covers an extensive range of occupations in both exposed and protected groups. It includes such varied occupations as postmen, mail carriers and post-masters; mounted policemen, prison guards and revenue officers; farm help, veterinary surgeons and agricultural specialists; lighthouse keepers and mariners; doctors, nurses and technicians; inspectors and examiners of all types; architects, artists, draftsmen, editors and librarians; and many other specialized occupations in addition to the ordinary clerical office workers. Thus, the morbidity statistics from such a group in the population constitutes a fair sample and cross section of the men and women in employment throughout Canada.

During the years 1935-36 the medical certificates for illness among well over 30,600 persons employed in the Canadian Civil Service were included in the survey, while during the fiscal year 1938-39 the number exceeded 35,200. The following table summarizes some of the salient features of the survey for the four fiscal year periods as the same appertains to the general population coverage of the Civil Service sickness survey:

PURPOSE OF THE SURVEYS. — Previous to 1934 the personnel staffs of the Civil Service of Canada were greatly puzzled by what at times appeared to be discrepancies between medical conditions stated on the medical certificates and the length of the periods of sick leave. Since the medical certificate was provided by a duly qualified practitioner on a regulation form there was very little that could be done with these problem cases by lay personnel. The medical certificate, up to that time, had been used by the time-clerks purely for the purpose of preparing the pay lists, and the medical information on the certificates was not used beyond the point where the diagnosis indicated to lay persons the necessity for sick leave with or without pay. The problem cases then were largely medical, requiring examination by a duly qualified medical practitioner, but it was due to this fact that so many problem cases were referred to the National Health Branch of the Department of Pensions and National Health for consultation and advice by the administrative staffs of the many departments which make up the structure of the Federal Government.

The Department of Pensions and National Health, being well equipped to carry out the supervision of sick leave through its well established Treatment Branch, realized the importance of some factual material that would show just what was the effect of the sickness factor upon such an extensive personnel as the Civil Service of Canada, and Dr. F. S. Burke was detailed to compile and examine the statistics which were being gathered as the result of the survey.

This appendix merely brings together in one report the results portrayed in the three final reports published by the Department of Pensions and National Health for the three fiscal years 1936-37, 1937-38 and

TABLE A.

	1935-36	1936-37	1937-38	1938-39		1935-36	1936-37	1937-38	1938-39
1. Total population of civil service under regulation.....	30,617	35,053	35,140	35,215	4. Total days lost on medical certificate...	183,129	208,746	199,934	207,992
2. Number of civil servants ill on medical certificate.....	7,876	9,545	8,335	9,826	5. Total days lost on casual leave.....	47,290	56,682	50,217	60,365
3. Total number of illnesses suffered by civil servants.....	10,582	13,256	11,336	13,397	6. Total days lost on medical certificate and casual leave.....	230,419	265,428	250,151	268,357
					7. Number of repeated periods of illness.....	2,706	3,711	3,001	3,571

1938-39. At the very beginning of the work certain significant happenings took place:

1. Medical care of those Canadians on relief had become a major problem.
2. A definite swing towards Health Insurance was apparent.
3. The need for a standard morbidity code for Canada became apparent because, to quote the 1935-36 report:

"There were indications that morbidity statistics were on the verge of being collected along several divergent lines."

4. The need for a uniform method of setting down morbidity statistics in order to provide a plan for future morbidity studies.
5. A general lack of statistics on morbidity and the confusion which is experienced when comparisons are attempted of data collected without through of uniformity.

THE MORBIDITY CODE FOR CANADA. — The Department of Pensions and National Health, in collaboration with the Dominion Bureau of Statistics, prepared a morbidity code within the framework of the International List of Causes of Death. Certain adjustments were made in the various rubrics and other classes were added to the code to bring it into more general conformity to the need of analysis of illnesses and morbidity experience.

RULES FOR GRANTING SICK LEAVE. — The following paragraphs taken from the surveys indicate the rules of Civil Service and the premises upon which leave was granted and the material collected:

"Casual leave: Each employee is permitted eight days sick leave per annum which may be taken in periods of three days or less on the employee's own declaration and without a medical certificate. Returns are submitted monthly by all departments to the Civil Service Commission indicating the number of days taken under this head. In this study, days lost due to casual illnesses are recorded by departments but not by disease cause, age, or sex. The total days lost by casual leave are added to the total days lost on medical certificates in computing the total time lost due to illness. If the employee has exhausted his eight day casual sick leave and is again ill, he must provide a medical certificate for any further days or lose his pay for the time off duty.

"Sick leave on medical certificate: All employees who are absent on account of illness for

more than three days must submit a certificate from a duly qualified medical practitioner covering the entire length of disability. Therefore, apart from casual leave which averaged 1.6 days, every certificated illness suffered was computed from the first to the last day of absence. In serious or prolonged cases, several certificates may be necessary."

The medical certificates were submitted to the Department of Pensions and National Health, where they were scrutinized and returned to the various departments, together with a report on the medical conclusions. At the same time all information regarding the illnesses was coded and extracted for analysis at the end of the fiscal year. The time loss due to illness per person for each fiscal year averaged:

Fiscal year	Casual leave	On medical certificate	Annual average leave per person
1935-36	1.5	5.9	7.4
1936-37	1.6	5.9	7.5
1937-38	1.4	5.7	7.1
1938-39	1.7	5.9	7.6

Throughout the material presented in this report it should be noted that:

1. Since a certain number of employees are ill more than once in a year, there will be a difference between the number of persons ill and the number of periods of illness both in the classes and the grand total.
2. Short periods of absence for certain conditions that appear to be out of proportion may be due to split periods at either end of the fiscal year or to short relapses after a period of work.

It is probable that many minor operations were performed in connection with the treatment of certain conditions, no mention of which was made on the certificate of illness.

DEPARTMENTAL DISTRIBUTION OF ILLNESSES. — Some idea of the effect of lost time upon the proper functioning of the administrative departments of the federal government may be obtained from Table 1. Of an average of 34,000 employees included in the sickness survey during the four years from 1935 to 1938, some 8,900 employees per year (over one-quarter of the total number of employees) were absent on medical certificate for an average period of about 22½ days, this alone accounting for about 200,000 days of lost time. Furthermore, a

certain number of employees took an additional 54,000 days of casual leave or an average of 1½ days each for all employees. Therefore, of a total of about 10½ million working days in the Civil Service year, over one-quarter of a million working days, or about 2½ per cent of the total working time for the service as a whole, are lost each year through illness.

As between different departments of government administration, percentages of total time lost vary from about 1 per cent to almost 5 per cent. There are general indications that departments with a large proportion of personnel (a) engaged in outdoor occupations, and (b) engaged on time-pay basis, as well as the Department of Defence, have a lower than average rate of sickness. Inversely, departments composed mainly of confined office workers on an annual salary basis would appear to lose more than average time through illness.

From Chart 23 it will be noted that an interesting feature of Civil Service morbidity incidence is that on the basis of the experience of the period 1935-1939 almost three-quarters of the total Civil Service personnel lose no time whatever during the year because of illness. During the four years under study, about 18 to 20 per cent of the personnel accounted for almost two-thirds of the total lost time and for somewhat over half of the total number of illnesses. On the other hand the remaining 6 or 7 per cent of the personnel report only one illness during the year, which however accounts for over one-third of the total loss in working time.

LEADING CAUSES OF LOST TIME. — Tables 2 and 3 give details of the numbers and percentages of persons and illnesses involved, and of the time lost in the Civil Service, due to certain diseases specified as the cause of absence from work during the three years 1936-39. About one-third of both men and women were kept from work because of infectious and parasitic diseases while from 10 to 20 per cent of each sex were absent because of diseases of the digestive system and a similar proportion because of diseases of the respiratory system, with variations in the proportions from year to year. Chart 24 clearly indicates the distribution of the percentages of illnesses occurring because of specified diseases, segregated for males and females. About 11 or 12 per cent of the men were absent from work because of accidents, the fourth leading cause of illness among male civil servants, while a somewhat smaller proportion of women were absent from work because of diseases of the nervous system, the fourth leading cause of lost time for female civil servants.

The number of illnesses due to each of the specified causes varied greatly from year to year. Infectious

and parasitic diseases accounted for approximately one-third of all illnesses, except in 1937-38 when diseases of the digestive system accounted for the larger number of illnesses. Next in order of importance for men, and accounting for over 10 per cent of all illnesses are: diseases of the respiratory system, of the digestive system and finally accidents. The same order prevails for women except that diseases of the nervous system displace accidents as a fourth leading cause.

With respect to the time lost through illness, Chart 24 has been drawn up on the basis of the order of diseases which accounted for the greatest proportion of lost time, and therefore requires no comment at this point.

Another feature of the lost time element is the average period or duration of lost time attributable to each type of illness or primary disease. The average time lost is of course determined to a large extent by the nature of the illness as is illustrated by the following table showing the average number of working days lost for each incident of illness (i.e., of those only which are covered by a medical certificate) and due to each of the primary diseases.

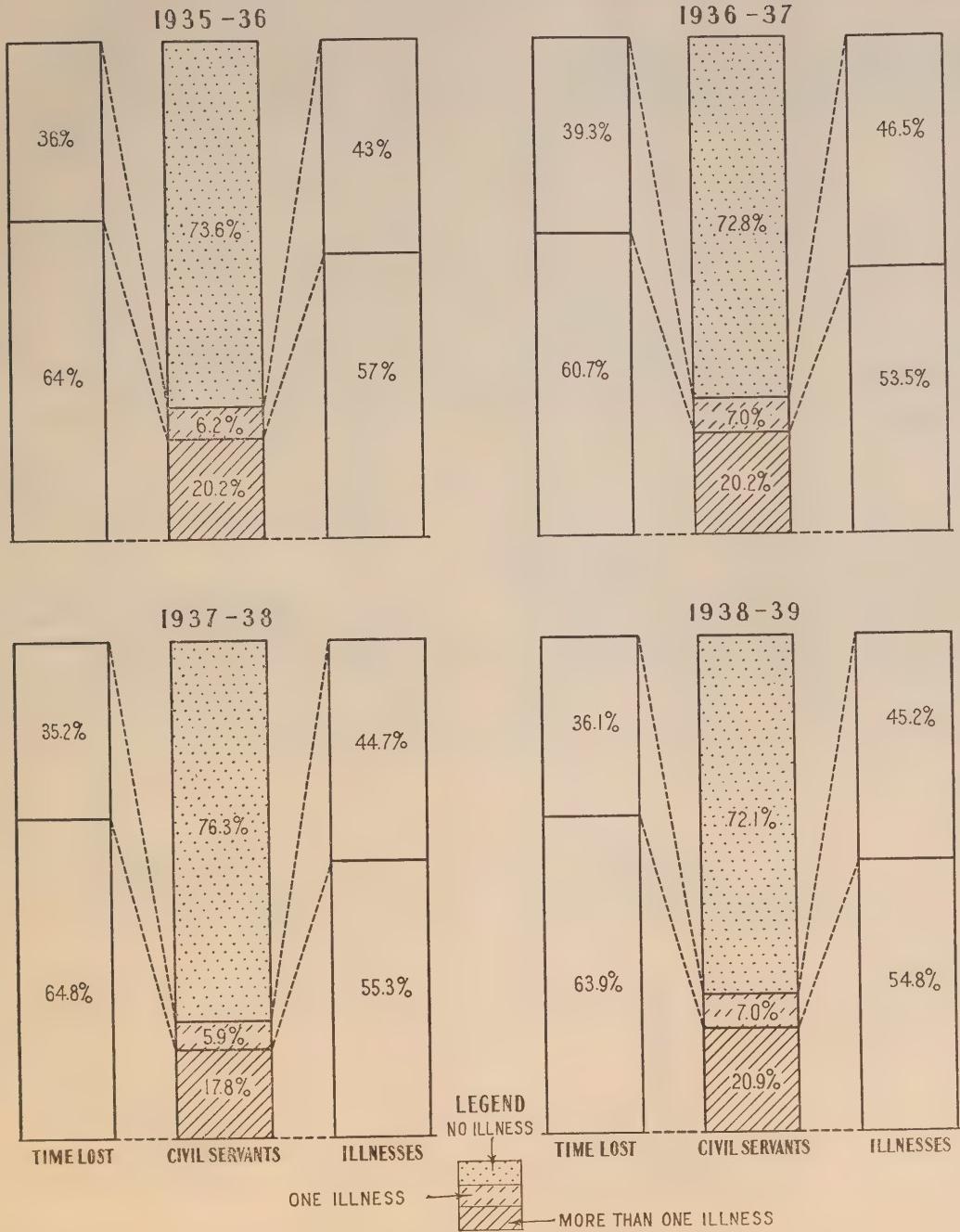
AVERAGE NUMBER OF WORKING DAYS LOST PER EACH INCIDENT OF LOST TIME ACCORDING TO PRIMARY DISEASES, 1936-39.

Diseases	Average number of working days lost	Diseases	Average number of working days lost
Cancer and tumours	46.1	Rheumatism, nutritional, endocrine glands and general	17.3
Circulatory system	31.4	Digestive system	16.1
Blood and blood-forming organs	31.2	Skin and cellular tissue	13.5
Nervous system	25.4	Infectious and parasitic	11.2
Genito-urinary system	22.2	Respiratory	11.2
Bones and organs of locomotion	21.9	Other and ill-defined	16.8
Accidents	17.9		

Diseases most prevalent in the federal service were those in which the lowest average number of working days were lost, i.e. for infectious, parasitic, respiratory, and digestive system diseases, the latter having the highest average loss of time at 16.1 days. Accidents which are more prevalent among men than women, each accounted for an average loss of time of almost 18 days while each illness due to diseases of the nervous system (comprising mainly functional nervous disorders, neuralgia and neuritis which as previously noted were much more prevalent among females than males) accounted for an absence from work of 25.4 days. It is realized that although these figures may be valuable in assessing the relative amounts of time lost per illness due to each type of

Chart 23

**PERCENTAGE DISTRIBUTION OF ILLNESSES
AND OF
TIME LOST IN THE CIVIL SERVICE
DURING
1935-36 TO 1938-39**



primary disease, they are, however, subject to certain qualifications, because of several factors which need not be discussed in full for purposes of this study. Table 4 shows the fifty principal causes of absence from work. The details are summarized briefly in the following table which shows the average number of illnesses per year during the three-year period (1936-39) due to 13 of the most prevalent of these causes.

AVERAGE NUMBER PER YEAR OF ILLNESSES IN THE FEDERAL SERVICE DURING 1936-39 ATTRIBUTABLE TO CERTAIN CAUSES.

Cause	Average number of illnesses	Cause	Average number of illnesses
1. Influenza (all forms)	3,453	7. Tonsils, adenoids, etc.....	390
2. Bronchitis (all forms)	912	8. Gastritis, indigestion.....	379
3. All wounds, lacerations, etc.....	515	9. Sprains, etc.....	316
4. Fibrositis, myalgia, lumbago, sciatica, and perineuritis.....	479	10. Fractures.....	233
5. Common colds.....	443	11. Rheumatism, gout, arthritis, etc.....	222
6. Nervous functional diseases.....	402	12. Neuralgia, neuritis	212

The most common causes of lost time are those illnesses associated with what is generally termed "colds" with varying degrees of complications. Lumbago, rheumatism and associated illnesses rank high in the number of illnesses, while sprains, wounds and fractures make up a large percentage of the total, as well as nervous disorders, neuralgia, and "indigestion". None of these illnesses may be considered in themselves very serious types; they do, however,

incapacitate the worker for a short period of time and prevent him to a very appreciable degree from displaying that efficiency which is so essential to a proper functioning of a federal administration.

Table 5 summarizes the number of accidents occurring in the federal service distributed by administrative departments. More than 33 persons per thousand in the federal service are subject to accidents each year, with men suffering from a proportionately larger number of accidents than women. It is also of interest to note that more accidents occur while the employee is off duty than while on duty and that fractures, accidental falls and automobile accidents are the most important cause of absence from work among the accident group. It is noteworthy that among males, the incidence of fractures increases steadily from the younger to the older age groups, while in females there is a decided concentration from 50 years upwards. Of all the departments of federal administration the Post Office has by far the highest accident rate (an average of 5.58 per cent) but as indicated in the report covering this subject:¹

"Considering the large number who pursue outdoor employment, i.e. letter carriers and postal porters, together with the railway mail service, we do not consider that the accident incidence is above that which might be expected."

The Labour and Pensions and National Health Departments also had relatively high average accident rates at 3.90 and 3.70 per cent respectively during the period under review (1936-39) as compared with an accident rate for the entire federal service during these three years of 3.35 per cent.

¹ Statistical Study of Illness in the Civil Service of Canada, 1938-39, page 15.

THE DISTRIBUTION OF ILLNESSES AND TIME LOST IN THE CIVIL SERVICE

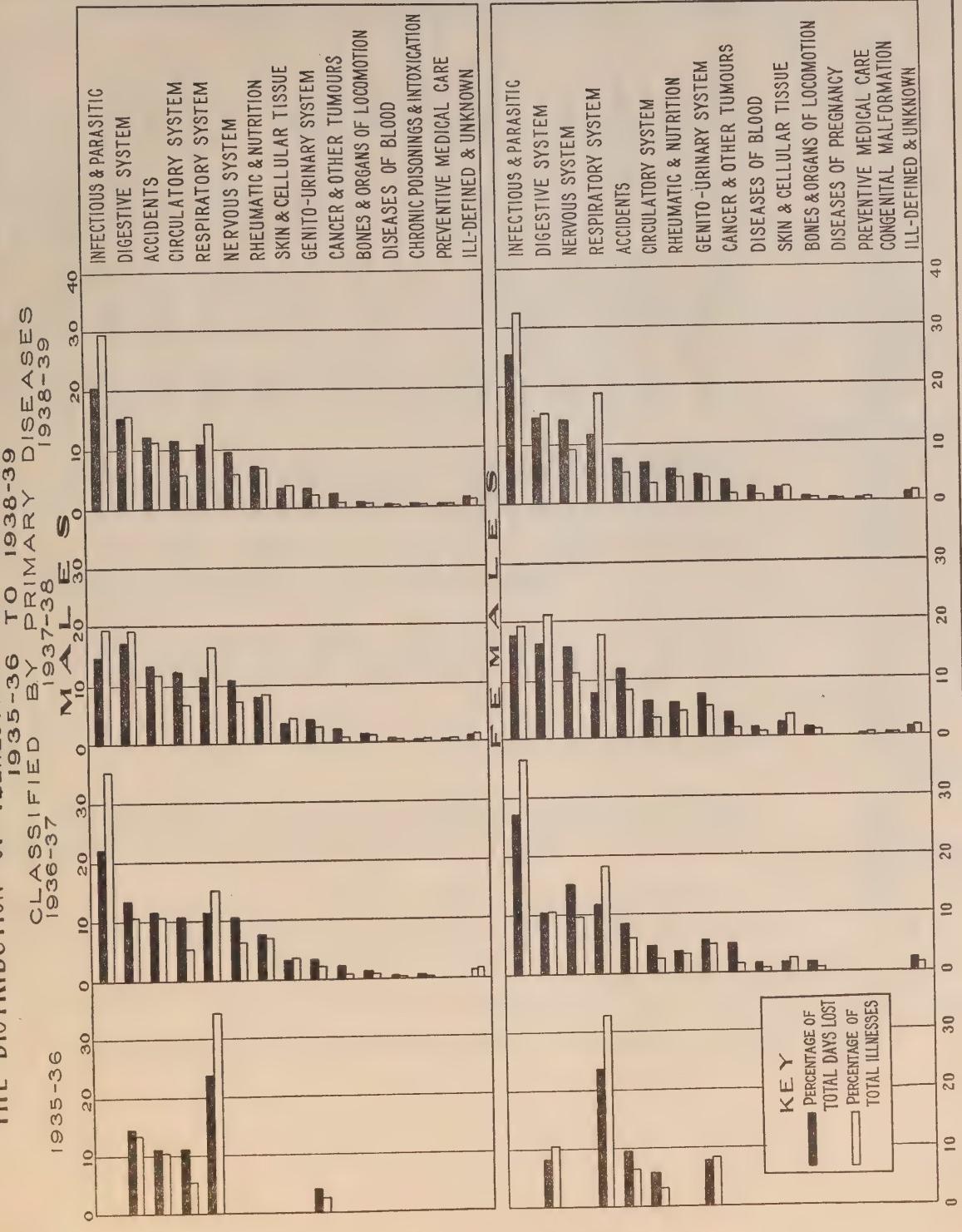


TABLE 1 — SUMMARY OF LOST TIME DUE TO ILLNESS IN THE CIVIL SERVICE OF CANADA BY DEPARTMENTS
OF GOVERNMENT FOR THE FISCAL YEARS 1935-36, 1936-37, 1937-38 AND 1938-39.

	Agriculture	Finance (1)	Fisheries	Justice	Labour	Mines and Resources	National Defence	National Revenue	Pensions and National Health	Post Office	Public Works	Secretary of State	Trade and Commerce	Transport	Miscellaneous (2)	Total (3)
Number on staff.																
1935-36.....	2,129	1,676	257	243	182	2,511	1,056	4,184	2,178	10,507	2,050	598	1,313	1,625	97	30,617
1936-37.....	2,452	1,628	243	207	146	2,766	1,037	5,545	2,084	11,005	2,169	1,137	1,645	2,783	206	35,053
1937-38.....	2,452	1,628	243	207	233	2,766	1,037	5,545	2,084	11,005	2,169	1,137	1,645	2,783	206	35,140
1938-39.....	2,453	1,629	243	207	236	2,769	1,037	5,561	2,084	11,017	2,179	1,137	1,673	2,784	206	35,215
Number of persons absent on medical certificate.																
1935-36.....	443	411	45	35	58	548	197	901	686	3,157	439	178	373	390	15	7,876
1936-37.....	573	500	40	59	74	646	222	1,508	749	3,430	519	210	502	495	18	9,545
1937-38.....	446	470	43	52	77	513	184	1,328	607	3,101	471	228	397	402	16	8,335
1938-39.....	593	507	46	51	82	648	254	1,576	697	3,524	535	263	511	517	22	9,826
Total illnesses on medical certificate.																
1935-36.....	563	581	50	42	72	718	243	1,128	1,007	4,267	563	252	566	499	25	10,582
1936-37.....	760	754	48	69	104	859	302	2,081	1,108	4,772	689	306	737	640	27	13,256
1937-38.....	571	662	48	61	121	673	240	1,778	867	4,226	657	346	545	522	19	11,336
1938-39.....	744	715	62	61	139	837	309	2,152	938	4,894	699	406	733	677	31	13,397
Sick leave on medical certificate—Total days lost.																
1935-36.....	9,531	10,532	1,653	1,164	1,172	13,923	3,900	20,182	13,718	73,286	10,640	4,139	8,182	10,689	418	183,129
1936-37.....	11,835	10,938	1,206	1,409	1,321	14,372	5,687	29,786	14,059	79,137	12,107	5,103	10,130	11,300	356	208,746
1937-38.....	10,043	10,423	1,015	1,056	1,424	12,157	4,398	30,248	11,879	80,167	12,697	4,641	8,689	10,669	428	199,934
1938-39.....	12,370	9,929	1,214	1,544	1,177	14,743	4,784	32,606	12,055	77,962	11,794	6,059	9,598	11,782	375	207,992
Percentage time lost ⁽⁴⁾																
1935-36.....	1.49	2.00	2.14	1.60	2.15	1.85	1.23	1.61	2.10	2.32	1.73	2.31	2.08	2.19	1.44	1.99
1936-37.....	1.60	2.23	1.65	2.26	3.01	1.73	1.82	1.78	2.24	2.39	1.85	1.49	2.05	1.35	0.57	1.98
1937-38.....	1.36	2.12	1.38	1.69	2.02	1.46	1.40	1.81	1.89	2.41	1.94	1.35	1.75	1.27	0.69	1.88
1938-39.....	1.67	2.02	1.65	2.47	1.65	1.76	1.53	1.94	1.92	2.34	1.79	1.76	1.90	1.40	0.60	1.96
Casual leave, 8 days per annum—Total days lost.																
1935-36.....	2,662	5,712	165	426	564	3,752	1,543	5,759	4,799	13,129	1,960	1,777	2,510	2,373	153	47,290
1936-37.....	2,675	5,532	213	480	807	4,457	1,534	11,151	4,968	14,294	2,323	2,523	2,981	2,562	182	56,682
1937-38.....	2,746	5,313	157	646	793	4,229	1,482	5,804	4,681	13,341	3,031	2,559	2,821	2,408	206	50,217
1938-39.....	3,034	5,256	218	511	1,010	4,508	1,857	11,802	5,134	15,001	2,811	2,703	3,418	2,904	198	60,365
Average days per person.																
1935-36.....	1.2	3.4	0.6	1.7	3.1	1.5	1.4	1.3	2.2	1.2	0.9	2.9	1.9	1.5	1.6	1.5
1936-37.....	1.1	3.4	0.9	2.3	5.5	1.6	1.5	2.0	2.4	1.3	1.1	2.2	1.8	0.9	0.9	1.6
1937-38.....	1.1	3.3	0.6	3.1	3.4	1.5	1.4	1.0	2.2	1.2	1.4	2.3	1.7	0.9	1.0	1.4
1938-39.....	1.2	3.2	0.9	2.5	4.3	1.6	1.8	2.1	2.5	1.4	1.3	2.4	2.0	1.0	1.0	1.7
Total days lost, sick and casual.																
1935-36.....	12,193	16,244	1,818	1,590	1,736	17,675	5,443	25,941	18,517	86,415	12,600	5,916	10,692	13,062	571	230,419
1936-37.....	14,510	16,470	1,419	1,889	2,128	18,829	7,221	40,937	19,027	93,431	14,430	7,626	13,111	13,862	538	265,428
1937-38.....	12,789	15,736	1,172	1,702	2,217	16,386	5,880	36,052	16,560	93,508	15,728	7,200	11,510	13,077	634	250,151
1938-39.....	15,404	15,185	1,432	2,055	2,187	19,251	6,641	44,408	17,189	92,963	14,605	8,762	13,016	14,686	573	268,357
Percentage days lost, sick and casual. ⁽⁴⁾																
1935-36.....	1.91	3.23	2.36	2.18	3.18	2.35	1.72	2.07	2.83	2.74	2.05	3.30	2.71	2.68	1.96	2.51
1936-37.....	1.97	3.36	1.94	3.03	4.84	2.26	2.31	2.45	3.03	2.82	2.21	2.23	2.65	1.65	0.87	2.52
1937-38.....	1.73	3.20	1.60	2.72	3.15	1.96	1.88	2.15	2.63	2.81	2.40	2.10	2.32	1.56	1.02	2.36
1938-39.....	2.08	3.09	1.95	3.29	3.07	2.30	2.12	2.64	2.73	2.79	2.22	2.55	2.58	1.75	0.92	2.52

(1) Department of Auditor General included in Finance.

(2) Miscellaneous includes the following Departments: External Affairs, Governor General, House of Commons, International Joint Commission, Library of Parliament, Prime Minister, Privy Council, Senate.

(3) Exclusive of age not stated.

(4) In 1935-36, 300-day year was taken; in 1936-37, 301-day year was taken; in 1937-38, 302-day year was taken and in 1938-39, 302-day year was taken.

TABLE 2 — SUMMARY OF ALL ILLNESSES AND ACCIDENTS IN THE CIVIL SERVICE OF CANADA BASED ON THE GROUPINGS OF THE INTERNATIONAL LIST OF CAUSES OF DEATH, FOR THE FISCAL YEARS 1936-37, 1937-38 AND 1938-39.

Int. List No.	Class	Total illnesses			Days lost			Average days lost		
		1936-37	1937-38	1938-39	1936-37	1937-38	1938-39	1936-37	1937-38	1938-39
I	Infectious and parasitic diseases..	4,713	2,218	4,096	48,651	30,649	44,131	10	14	11
II	Cancer and other tumours.....	124	120	123	5,988	5,360	5,588	49	45	45
III	Rheumatic diseases, diseases of nutrition, endocrine glands and other general diseases.....	815	854	858	14,332	15,079	14,385	17	18	17
IV	Diseases of the blood and blood-forming organs.....	59	47	48	1,558	1,397	1,846	26	30	38
V	Chronic poisonings and intoxications.....	1	3	1	127	36	48	127	12	48
VI	Diseases of the nervous system and organs of special sense.....	955	908	910	24,078	23,845	22,541	25	26	25
VII	Diseases of the circulatory system.....	636	657	711	19,265	21,682	22,050	30	33	31
VIII	Diseases of the respiratory system.....	2,108	1,899	2,115	24,182	21,323	22,815	11	11	11
IX	Diseases of the digestive system..	1,418	2,229	2,095	27,036	34,034	31,492	19	15	15
X	Diseases of the genito-urinary system (non-venereal).....	404	374	379	8,418	9,380	7,903	21	25	21
XII	Diseases of the skin and cellular tissue.....	449	481	485	6,041	6,199	6,836	13	13	14
XIII	Diseases of the bones and organs of locomotion.....	132	140	103	3,296	2,951	1,954	25	21	19
XVII	Accidents.....	1,192	1,185 ⁽¹⁾	1,222 ⁽²⁾	20,379	22,552	21,629	17	19	18
XVIII	Ill-defined and unknown causes..	200	139	167	3,221	2,345	2,951	16	17	18
XIX	Preventive medical care ⁽³⁾	—	5	2	—	19	6	—	4	3
	Totals.....	13,206	11,259	13,315	206,572	196,851	206,175	16	17	15

(1) Does not include 72 carry-over accidents, with 3,066 days lost, and an average days lost of 43.

(2) Does not include 72 carry-over accidents, with 1,776 days lost, and an average days lost of 25.

(3) Figures not available for 1936-37.

NOTE: Totals not corrected for short term and year end periods of illness.

TABLE 3 — PERCENTAGE OF PERSONS ILL, PERCENTAGE OF TOTAL ILLNESSES, AND PERCENTAGE OF TOTAL DAYS LOST, UNDER THE INTERNATIONAL LIST OF CAUSES OF DEATH GROUPINGS AND SEX IN THE CIVIL SERVICE OF CANADA, 1936-37, 1937-38 AND 1938-39.⁽¹⁾

Cause of illness	Percentage of persons ill						Percentage of total illnesses						Percentage of total days lost					
	1936-37		1937-38		1938-39		1936-37		1937-38		1938-39		1936-37		1937-38		1938-39	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1 Infectious and parasitic diseases	35.06	36.47	19.94	19.61	30.29	32.62	35.14	36.76	19.68	19.27	29.96	32.55	22.15	27.04	14.65	17.67	20.07	25.39
2 Diseases of the digestive system	10.75	9.92	19.16	21.11	15.80	15.86	10.83	10.23	19.16	21.32	15.66	15.56	13.79	10.16	17.27	16.19	15.30	14.57
3 Diseases of the respiratory system	14.87	18.52	16.00	17.14	14.44	18.63	15.05	18.52	16.48	17.73	14.58	18.71	11.51	11.82	11.47	7.98	11.02	10.77
4 Accidents	11.08	6.64	12.51	8.65	11.71	5.64	10.47	6.07	11.91	8.28	11.04	5.22	11.51	8.61	13.11	11.83	12.30	7.43
5 Rheumatic and nutritional diseases	6.81	3.62	8.20	4.60	6.72	4.34	7.02	3.42	8.44	4.45	7.01	4.46	7.76	3.95	8.00	6.00	7.17	5.98
6 Diseases of the nervous system	6.34	9.48	6.97	11.41	5.95	9.06	6.37	9.77	7.02	11.34	6.02	9.28	10.40	15.23	10.76	15.81	9.91	14.20
7 Diseases of the circulatory system	5.35	2.77	6.39	3.22	5.61	3.39	5.46	2.74	6.52	3.33	5.90	3.40	10.57	4.86	12.22	6.24	11.68	6.69
8 Diseases of the skin and cellular system	3.69	2.77	4.46	3.76	3.93	2.29	3.64	2.62	4.39	3.75	4.02	2.33	3.25	1.73	3.30	2.42	3.60	2.13
9 Diseases of the genito-urinary system	2.31	4.55	2.67	5.10	2.39	3.86	2.40	5.06	2.73	5.22	2.37	4.31	3.43	5.99	3.95	7.17	3.57	4.63
10 Diseases of the bones and organs of locomotion	1.10	0.79	1.26	1.30	0.85	0.62	1.09	0.71	1.23	1.24	0.82	0.60	1.53	1.73	1.45	1.54	1.00	0.73
11 Cancer and other tumours	0.79	1.68	0.89	1.51	0.76	1.47	0.76	1.54	0.93	1.51	0.77	1.38	2.21	5.01	2.22	4.21	2.36	3.89
12 Diseases of the blood	0.31	0.92	0.27	0.92	0.17	1.20	0.32	0.83	0.31	0.93	0.17	1.26	0.53	1.47	0.49	1.40	0.39	2.76
13 Chronic poisonings and intoxications	—	—	0.04	—	0.01	—	0.01	—	—	0.03	—	0.01	—	—	0.02	—	0.03	—
14 Preventive medical care	—	—	0.04	0.08	0.01	0.03	—	—	0.03	—	0.01	—	—	—	0.01	—	0.01	—
15 Congenital malformations	—	—	—	—	0.04	—	—	0.03	—	—	0.04	—	—	—	0.04	—	0.01	—
16 Diseases of pregnancy	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
17 Ill-defined and unknown causes	1.53	1.85	1.20	1.55	1.36	0.96	1.44	1.73	1.14	1.51	1.36	0.88	1.28	2.40	1.08	1.48	1.59	0.78

(1) Source: Statistical study of illness in the Civil Service of Canada by Dr. F. S. Burke, Department of Pensions and National Health.

TABLE 4 — SHOWING THE FIFTY PRINCIPAL CAUSES OF ILLNESS IN THE CIVIL SERVICE OF CANADA
DURING THE THREE FISCAL YEARS, 1936-37, 1937-38 AND 1938-39.

No.	Cause of illness	Total illnesses			Total days lost			Average days lost		
		1936-37	1937-38	1938-39	1936-37	1937-38	1938-39	1936-37	1937-38	1938-39
1	Influenza (all forms).....	4,422	2,018	3,920	37,067	18,623	32,493	8	9	8
2	Tuberculosis - pulmonary.....	73	75	64	8,421	9,506	9,162	115	126	143
3	Tuberculosis - non-pulmonary.....	8	6	6	326	525	493	41	37	32
4	Cancer - digestive tract.....	26	22	18	2,119	1,517	1,502	82	69	83
5	Cancer - other sites.....	37	27	34	1,891	1,731	1,928	51	64	57
6	Benign tumours - female genital organs.....	21	13	22	1,224	560	959	58	43	44
7	Benign tumours - other organs.....	40	58	49	754	1,552	1,199	19	27	24
8	Rheumatic fever.....	40	53	48	1,538	1,586	875	38	30	18
9	Chronic rheumatism, gout and arthritis (all forms).....	240	228	197	4,672	5,591	4,365	19	25	22
10	Fibrositis, myalgia, lumbago, sciatica and perineuritis.....	458	465	515	5,155	5,300	6,123	11	11	12
11	Diabetes.....	34	37	36	1,168	870	998	34	23	28
12	Anaemias (pernicious and other).....	53	47	48	1,352	1,397	1,846	26	30	38
13	Cerebral haemorrhage.....	28	26	35	2,130	1,935	2,337	76	74	67
14	General paralysis of the insane, dementia praecox, manic depressive and other psychoses.....	27	29	29	2,180	2,800	2,849	81	97	98
15	Neuralgia and neuritis.....	226	198	212	2,393	2,395	2,466	11	12	12
16	Functional diseases - nervous.....	429	400	378	12,463	11,225	9,663	29	28	26
17	Diseases - Organs of vision.....	134	154	162	2,621	2,631	2,930	12	17	18
18	Diseases - Ear and mastoid.....	75	69	67	1,033	916	940	14	13	14
19	Myocarditis, endocarditis, valvular diseases of the heart and pericarditis.....	148	153	148	6,039	6,356	5,339	41	42	36
20	Diseases - Coronary arteries, angina pectoris.....	72	93	106	3,165	4,409	4,799	44	47	45
21	Functional diseases - heart.....	62	66	70	1,481	1,683	1,756	24	25	25
22	Hypertension, hypotension.....	133	156	180	4,063	4,749	5,753	30	30	32
23	Haemorrhoids.....	89	71	86	1,476	1,322	1,529	17	18	18
24	Varicose veins, phlebitis.....	48	54	58	952	1,306	1,494	20	24	26
25	Diseases - Lymphatic system.....	27	14	15	405	137	184	15	10	12
26	Colds, coryza, rhinitis.....	415	371	542	2,429	1,438	2,281	6	4	4
27	Diseases - Larynx, Vincent's angina, etc.....	240	70	79	1,854	502	765	7	7	10
28	Bronchitis (all forms).....	768	1,010	958	9,411	11,444	10,971	12	11	11
29	Pneumonia (all forms).....	61	59	61	2,583	1,839	1,839	42	31	30
30	Pleurisy.....	71	90	99	1,815	1,913	1,702	25	21	17
31	Asthma, hay fever.....	97	91	118	947	1,484	1,640	10	16	14
32	Diseases - Buccal cavity, annexa.....	212	215	200	1,841	1,862	1,837	9	9	9
33	Diseases - Tonsils, adenoids, quinsy.....	377	408	384	3,944	3,901	3,596	10	10	9
34	Gastritis (acute and chronic), indigestion.....	468	414	254	3,437	3,125	2,286	7	8	9
35	Ulcers (gastric and duodenal).....	183	191	211	5,509	6,047	6,198	30	32	29
36	Appendicitis.....	180	163	163	5,500	4,307	4,947	31	26	30
37	Hernia, intestinal obstruction.....	86	103	94	3,940	3,189	3,491	46	31	37
38	Biliary calculi, gall stones, cholecystitis.....	94	110	95	2,984	2,354	1,754	32	21	18
39	Nephritis (all forms), uraemia.....	52	49	38	1,634	1,724	1,328	31	35	35
40	Diseases - Urethra and prostate.....	51	46	38	1,549	1,701	1,439	30	37	38
41	Diseases - Female genital organs, menstrual disturbances.....	125	98	111	1,637	2,199	1,490	13	22	13
42	Boils, carbuncles, furunculosis.....	94	114	104	1,120	1,164	1,229	12	10	12
43	Abscesses, cellulitis.....	183	181	166	2,310	2,261	1,870	13	12	11
44	Dermatitis, eczemas, herpes zoster, etc.....	172	186	215	2,611	2,774	3,737	15	15	17
45	All wounds - Lacerations, bruises, abrasions.....	543	506	497	7,461	6,850	5,770	14	13	12
46	Fractures (any part of body).....	200	242	256	7,171	9,391	9,371	36	39	37
47	Sprains, luxations.....	295	307	346	3,758	4,518	4,255	13	15	12
48	Exhaustion, debility (unspecified).....	56	56	43	1,015	1,131	791	18	20	18
49	Biliousness, fever, fainting and dizziness.....	24	15	15	176	61	94	7	4	6
50	Observation (no diagnosis), ill-defined	96	25	39	1,546	310	443	16	12	11

TABLE 5 — SUMMARY OF ACCIDENTS IN THE CIVIL SERVICE OF CANADA BY DEPARTMENTS OF GOVERNMENT FOR THE FISCAL YEARS 1936-37, 1937-38 AND 1938-39.

	Agriculture	Finance ⁽¹⁾	Fisheries	Justice	Labour	Mines and Resources	National Defence	National Revenue	Pensions and National Health	Post Office	Public Works	Secretary of State	Trade and Commerce	Transport	Miscellaneous ⁽²⁾	Total
Population of Department																
1936-37.....	2,452	1,628	243	207	146	2,766	1,037	5,545	2,084	11,005	2,169	1,137	1,645	2,783	206	35,053
1937-38.....	2,452	1,628	243	207	233	2,766	1,037	5,545	2,084	11,005	2,169	1,137	1,645	2,783	206	35,140
1938-39.....	2,453	1,629	243	207	236	2,769	1,037	5,561	2,084	11,017	2,179	1,137	1,673	2,784	206	35,215
Number of Accidents																
1936-37.....	49	46	5	5	7	52	22	136	85	589	68	17	37	42	2	1,162
1937-38.....	50	46	5	2	6	55	21	141	75	593	60	34	37	27	1	1,153
1938-39.....	60	40	2	4	11	58	18	136	72	662	50	23	35	39	4	1,214
Percentage of Accidents																
1936-37.....	2.00	2.83	2.06	2.42	4.79	1.88	2.12	2.45	4.08	5.35	3.14	1.50	2.25	1.51	0.97	3.31
1937-38.....	2.04	2.83	2.06	0.97	2.58	1.99	2.03	2.54	3.60	5.39	2.77	2.99	2.25	0.97	0.49	3.28
1938-39.....	2.45	2.46	0.82	1.93	4.66	2.09	1.74	2.45	3.45	6.01	2.29	2.02	2.09	1.40	1.94	3.45

(1) Department of Auditor General included in Finance.

(2) Miscellaneous includes the following Departments: External Affairs, Governor General, House of Commons, International Joint Commission, Library of Parliament, Prime Minister, Privy Council, Senate.

SECTION 2

HOSPITALIZATION

CHAPTER I

Introduction

The purpose of the data presented in this section of the Committee's report on Health Insurance is to furnish as complete a picture as possible of the public hospitals operating in each province, since under any National Health Insurance plan, the public hospitals throughout Canada will be called upon to provide the facilities and services necessary to meet the increase in hospitalization which will inevitably occur under a National Health Insurance plan, and it is upon the data here presented that additional needs in hospital facilities and services must be predicated.

The first census of hospitals and kindred institutions was undertaken by the Institutional Statistics Branch of the Dominion Bureau of Statistics in 1931 and the growth of hospitalization in Canada since that year can best be exemplified by making a comparison between the census figures of 1931 and those of 1940 which were the latest figures available at the time this study was made.

In 1931 the various types of hospitals in operation and the number of each type were as follows: Public Hospitals, which include General, Women's, Children's, Isolation, Convalescent, Red Cross and Incurable, 575; Private, 164; Tuberculosis Sanatoria, 31; Dominion Hospitals, 36 and Mental Hospitals, 58, making a total of 864, with a total bed accommodation of 85,801. The 806 hospitals, which include public, private, tuberculosis and Dominion admitted 593,668 in that year, while the total under care was 697,183. The fifty-eight mental institutions admitted 10,059 and had a total of 39,986 under care during the year. Thus in 1931, 603,727 persons were admitted to all hospitals with a total of 737,169 under care during the year.

At the end of 1940, there were in operation in Canada a total of 1,173 hospitals, an increase over the number in 1931 of 309 or 35.5 per cent. The greatest increase in the number is found in Dominion hospitals which rose from 36 in 1931 to 173 during 1940. To provide services for soldiers on active service made necessary by wartime activities, the Dominion Government increased the number of its hospitals throughout Canada and besides those now in operation several more are under construction and construction approved as it is anticipated that the need for beds will increase as the armed forces expand. The bed capacity of hospitals rose from

85,801 in 1931 to 122,302 in 1940, an increase of 36,501 beds or 42.5 per cent increase. Beds in public and private hospitals rose from 45,656 in 1931 to 62,964 in 1940. In the same period beds for tuberculous patients increased from 6,044 to 10,459, while beds in Dominion hospitals increased from 3,592 to 9,436. Beds in mental hospitals rose from 30,516 to 39,441 and beds in private hospitals increased from 1,637 to 4,248. The present increase in hospital beds in the nine provinces was as follows: Prince Edward Island, 21.3; Nova Scotia, 54.0; New Brunswick, 43.4; Quebec, 48.0; Ontario, 40.0; Manitoba, 41; Saskatchewan, 44.5; Alberta, 50.0 and British Columbia, 40.0.

The total number of adults, children and newborn under care in public and private hospitals in 1940 was 1,033,279; in tuberculosis institutions, 21,002; Dominion hospitals, excluding Military and R.C.A.F. hospitals, 38,622 and in mental hospitals, 56,823. Excluding Military and R.C.A.F. hospitals, the total number under care in all other hospitals in 1940 exceeded the number under care in 1931 by 412,557 or 56 per cent.

The number of admissions during 1940 to the different classes of hospitals were as follows: General Public, 951,370; Private, 40,840; Incurable, 2,278; Dominion (excluding National Defence—Military, Air Force and Navy), 29,376; Tuberculosis, 11,524 and Mental hospitals, 9,823, giving a total of 1,045,211 persons admitted to hospitals in Canada during 1940.

Since under a National Health Insurance plan the public hospitals of Canada must provide accommodation and services for the care and treatment of increased numbers who will need surgical or medical care, the fullest possible information regarding general public hospitals in Canada is given in this section of the Committee's report. As mental hospitals, sanatoria and hospitals for incurable diseases are for those classes of patients for whose care financial provision has been otherwise provided, only general information is supplied.

Plan of Presentation

To obtain an accurate and clear picture of the distribution of public hospitals in each province, the following method was followed. Public hospitals are shown by census divisions and counties. The population of each county or census division is first given, its area and the population to the square mile. Then

Material for Part V, Section 2, compiled by J. C. Brady, Chief, Institutional Statistics Branch, Dominion Bureau of Statistics.

the location of public hospitals within each county or census division is given with their bed capacities, beds per 1,000 of the resident population, patients treated during the year, days' treatment given, per cent of beds occupied, average stay, revenues and expenditures and cost per patient day. By this arrangement, comparison of hospital care in the different geographic areas can be made, variations in the number hospitalized noted and a general picture of hospital facilities in each geographic area obtained.

The extent to which use is made of the facilities of any hospital is influenced by several factors, among which may be mentioned the public attitude towards hospitalization, the standing of the hospital from both public and professional standpoints, economic conditions of the patients, accessibility or otherwise of hospital to patients needing care, facilities available, etc.

The volume of hospital service as shown by the number of patients treated and the days' care provided in the public hospitals are facts of outstanding importance to all interested in the matter of providing for future hospital facilities to meet the increase in hospitalized cases which inevitably would follow any plan of National Health Insurance.

As to future hospital requirements, it is not possible to give a direct answer as the needs of any community depend on a number of factors outside the present study. Only by a careful examination of existing hospital facilities in each census division and each county can future needs be envisioned.

It is hoped that the tables in this section will prove of substantial assistance in evaluating present facilities and possible future trends in hospitalization.

TABLE 1 — HOSPITALS OPERATING IN CANADA — 1940

Classification	Canada	P. E. Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon & N.W.T.
General.....	494	4	27	15	57	111	38	78	83	71	10
Women's.....	10	—	2	1	3	3	—	—	1	—	—
Children's.....	11	—	1	—	3	2	1	1	1	2	—
Isolation.....	16	—	1	—	4	5	2	1	3	—	—
Convalescent.....	11	—	—	—	3	7	1	—	—	—	—
Red Cross.....	42	—	—	—	—	29	—	9	—	4	—
Not classified.....	9	—	—	—	6	1	—	—	2	—	—
Totals.....	593	4	31	16	76	158	42	89	90	77	10
Special —											
Incurable.....	20	—	—	1	5	8	1	1	3	1	—
Tuberculosis....	40	1	3	3	11	13	4	3	1	1	—
Mental.....	60	1	17	1	10	16	4	2	5	4	—
Totals.....	120	2	20	5	26	37	9	6	9	6	—
Private.....	322	—	4	5	49	59	10	109	45	41	—
Grand Totals..	1,035	6	55	26	151	254	61	204	144	124	10

NOTE: — Due to rapid expansion of Dominion hospitals it was not possible to ascertain the number operating at the end of 1940.

CHAPTER II

Prince Edward Island

The population of Prince Edward Island on June 2, 1941 was 95,047 of which 49,228 were males and 45,819 were females. Of the total population, 70,707 or 74.4 per cent were rural and 24,340 or 25.6 per cent urban.

There are four public hospitals in the province, as well as one public mental hospital and one provincial sanatorium.

The number of beds in general public hospitals per 1,000 of the population was 3 and for all hospitals 6.8. The number of admissions to the four public hospitals in 1940 was 6,643, of which 633 were infants born in hospital; the rate of admissions per 1,000 of the population was 63. The rate of admissions per 1,000 males was 65 and for females 75.

Hospital Legislation

1. *Public Hospitals:* These hospitals do not operate under a Hospital Act, because, outside of incorporated cities and town, there are no municipalities. There is no per diem grant by the Government but an annual lump sum is given to the hospitals. The annual grant is about \$2,000 to each hospital. Incorporated communities which control the four

public hospitals have the power under their Act of Incorporation to make a special levy if deemed necessary.

2. *Provincial Sanatorium:* The Provincial Government is responsible for maintenance expenditures as defined under the Provincial Sanatorium Act. The Government pays expenditures carried over from previous years and capital expenditures. In 1941, out of a total revenue of \$84,699 earned by the Provincial Sanatorium, the Government's share was \$66,000 and that of paying patients \$17,617.

The average cost of maintaining a patient in the Sanatorium in 1941 was \$2.20, and the total expenditures \$64,022.40. Included in the Provincial Grant was \$20,000 to pay for previous year's deficit and capital expenditure.

3. *Mental Hospital:* There is one mental hospital owned and operated by the Government. The yearly cost of maintenance is around \$100,000 a year. In 1941 maintenance expenditures were \$127,092. Less than \$10,000 was received from paying patients. The average daily number of mental patients under care in 1941 was 271 and the average per patient day cost \$1.30.

CHAPTER III

Nova Scotia

The population of Nova Scotia on June 2, 1941 was 577,962, of which 296,044 were males and 281,918 were females. Of the total population, 168,840 or 29.2 per cent were under 14 years of age and 47,028 or 8.1 per cent 65 years of age and over. Of the total population, 310,422 or 54 per cent were rural and 267,540 or 46 per cent were urban.

The province is divided into twenty (20) counties, has an area of 20,743 square miles with an average of 27.6 persons to the square mile.

Hospitals

Nova Scotia has 31 public hospitals with a bed capacity of 2,644 beds or 4.6 beds per 1,000 of the population. The number of patients treated in these hospitals in 1941 was 58,356 or 10.2 per cent of the population. The total days' treatment was 619,954, giving an average stay of 10.6 days per patient. Twenty-eight hospitals reported revenues of \$1,645,120 and expenditures of \$1,760,733. The three hospitals not reporting expenditures gave 98,045 days' care which, based on the average per diem maintenance cost of the hospitals reporting, would amount to \$278,447, raising the total expenditures to \$2,039,180.

Hospital Legislation

The public hospitals of Nova Scotia operate under a Hospital Act and the responsibility for indigents admitted to general hospitals is fixed on the municipality in which such persons have settlement. Each hospital has authority to make certain by-laws and regulations which must be approved by the Governor-in-Council; also all hospitals receiving Government aid are required to make returns to the

Department of Public Health. All hospitals receiving Government aid are subject to inspection by an official authorized by the Governor-in-Council and aid may be withheld if the reports of the inspector are not deemed satisfactory.

The province pays at the rate of 30 cents a day for each day's actual treatment until the amount in any one year in any one hospital reaches the sum of \$1,500; after such aid amounts to said sum, twenty (20) cents a day for each day's care is paid. Municipalities pay \$2.00 a day for indigents.

Tuberculosis Institutions.—The province has two sanatoria devoted exclusively to tuberculosis patients, viz., Nova Scotia sanatorium, over 300 beds, which is owned by the province; Halifax Tuberculosis Hospital, owned and operated by the City of Halifax (80 beds), while seven (7) General hospitals operate tuberculosis annexes with over 200 additional beds. At the end of the year 1940, Nova Scotia had 600 beds for tuberculous patients.

Total revenue earned by the two sanatoria in 1940 was \$342,082 and total expenditures were \$340,469, while the estimated per patient day cost was \$2.40.

Mental Institutions.—Nova Scotia has seventeen (17) institutions for the care of the mentally sick. Two of those are Provincial hospitals, six County hospitals and ten Municipal institutions. The bed capacity of these institutions is 2,474.

The number of patients under care in hospital on December 31, 1940 was 2,182.

Total receipts during the year amounted to \$887,238.76 and total expenditures \$891,975.67.

CHAPTER IV

New Brunswick

The population of New Brunswick on June 2, 1941 was 457,401, of which number 234,097 were males and 223,304 were females. Thirty-two per cent of the population (145,791) were under 14 years of age and 46,747 or 10.2 per cent over 60 years of age. The population to the square mile was 16.4.

Hospital Legislation

There are no regulations governing general public hospitals in New Brunswick beyond the provincial requirements that the by-laws and regulations under which the hospitals operate must be approved by the Governor-in-Council and further that under the authority of the Provincial Health Act the Chief Medical Officer of the province is general inspector of all public hospitals.

Provincial Grants

Provincial grants to public hospitals are annual lump sums and are not based upon per diem consideration.

Hospitals

New Brunswick has sixteen (16) general public hospitals with a capacity of 1,590 beds which gives 3.5 beds per 1,000 of the general population. The number of patients treated in 1940 was 29,003 or 6.4 per cent of the population. The number of days' treatment given to patients in all public hospitals

was 339,586, the daily average number under care was 888 and the average days' stay 11.7 days.

Total expenditures for maintenance of patients amounted to \$1,120,600 with a per capita day cost of \$3.30.

Tuberculosis Institutions

The province has three sanatoria with 540 beds, of which one is Municipal (East Saint John), one Provincial (Jordan Memorial, The Glades) and one (Sanatorium Notre Dame de Lourdes de l'Institution Lady Dunn, Vallee Lourdes) under lay and religious auspices.

The average daily population in these sanatoria during 1940 was 524. Total revenues amounted to \$405,562, of which the province contributed 50 per cent, municipalities, 37.4 per cent and patients 7 per cent. Expenditures amounted to \$424,780 with an estimated per capita daily cost of \$2.50.

Mental Institutions

New Brunswick has one mental hospital—The Provincial Hospital, Saint John—with 1,160 beds.

The number of patients under care on December 31, 1940 was 1,146 with 399 on parole.

Total receipts amounted to \$369,150 and total maintenance expenditures to \$358,566, giving an average per capita per diem cost of 98 cents.

CHAPTER V

Quebec

The province of Quebec has an area of 594,534 square miles, which exceeds the combined areas of France, Germany and Spain by over 2,600 square miles. Its natural resources are rich, varied and extensive. It has extensive timber resources for great pulp and paper industries; its rivers like the St. Lawrence are transportation routes and supply increasing electrical power. Its asbestos deposits are extensive, as also those of gold and copper, while its fisheries are well known. Agriculturally, the climate and soil of the upper St. Lawrence and the plains of the Eastern Townships are eminently adapted for agriculture.

The population of the province on June 2, 1941 was 3,331,882, which gave 5.6 persons to the square mile. Of the total population on June 2, 1941, 37 per cent were rural and 63 per cent urban. Quebec is divided into 67 counties, including the Madeleine Islands. The province has 41 urban centres of 5,000 population and over. The six largest urban centres are Montreal, Quebec, Verdun, Trois-Rivieres, Sherbrooke and Hull.

Hospital Legislation

Quebec has no provincial requirements concerning Hospital Regulations. Up to the present time, hospitals can be opened without a permit of the Government or Municipality. The responsibility for their functioning rests upon the proprietors or directors of the institution but hospitals, being public institutions, have to make a report to the Government in the matter of the number of beds, patients treated, etc. Hospitals once erected are submitted to the law governing "public buildings".

Public hospitals in the province receive support from the Public Charities Fund which is operated by the Government. For the purposes of allocating grants, the hospitals are divided into three classes:—Class A1—General hospitals with a minimum of 40 beds for the use of indigents. Cost \$3, of which one third is paid by the Bureau of Charities, one third by the municipality and one third by the hospital. Class A2—Hospitals with a minimum of 25 beds for use of indigents. Cost was fixed at \$2.01 with the same distribution as under A1. Class A3—in hospitals where there is a minimum of 15 beds for indigents, as also in hospitals for incurables, the cost is fixed at \$1.50 a day with the same distribution as above.

Maternity cases.—After an investigation at different hospitals which have maternity cases, the Government has allotted a certain number of beds to each hospital and the Quebec Public Charities pays 365 days a year for each bed at the rate of \$3 per day.

Babies born in public hospitals of indigent mothers are paid by the Government at the rate of 20 cents per day. A similar sum is paid by the municipality.

Incurable hospitals receive one dollar a day for incurables requiring some medical treatment and 70 cents a day for those requiring hygiene care but no medical treatment.

Public Hospitals

Sixty-five per cent of the public hospitals in Quebec are controlled and operated by Catholic religious orders. Three large hospitals under lay auspices and one municipal are staffed and operated by members of religious orders. Twenty-two public hospitals are under the auspices and control of lay corporations, two are municipal, one county, one Jewish, one Shriner's, one Salvation Army and one attached to the University of Montreal.

The number of public hospitals operating in Quebec in 1940 was 76. These hospitals had a bed capacity of 14,482 beds, which gave 4.4 beds per 1,000 of the population. The city of Quebec, with seven hospitals having 1,723 beds, was the second largest hospitalized centre with 8.6 beds per 1,000 of the population. The two cities of Montreal and Quebec had 71 per cent of the total bed capacity of all public hospitals in the province.

The number of patients treated in Quebec public hospitals in 1940 was 201,881 which was 6.1 per cent of the total population. The days' treatment given were 3,776,625 with an average days' stay of 18.7 days. Many of the Quebec public hospitals take in incurable and tuberculous patients whose stay is longer than that of patients who enter the general division of the hospital. This serves to explain the high average stay in Quebec public hospitals in comparison with the average stay in the other provinces which segregate incurable and tuberculous patients cared for in the general hospital divisions.

Sixty-nine of the seventy-six public hospitals reported revenue of \$12,801,386 and expenditures of \$13,414,168, with an average cost per patient day of \$3.75.

Tuberculosis Institutions

There are eleven sanatoria with 2,404 beds and 553 beds reserved for tuberculous patients in general public hospitals, a total of 2,951 beds. Contracts have been awarded for 650 additional beds which will raise the total to 3,641 beds in 1941, i.e. 1.3 beds per death.

There were eleven anti-tuberculous dispensaries in the province in 1940 at which 34,255 patients were examined. The province is divided into 44 sanitary units consisting of 52 counties. Ten full time specialists and five part time clinicians were devoting full and part time to this field. The number of clinics held in 1940 was 1,445 at which 41,745 patients were examined.

The revenue of the eleven sanatoria in 1940 was \$1,185,852, of which sum \$767,693 were provincial grants, \$229,439 municipal grants, \$23,606 Dominion Government contributions and \$89,454 from patients. There was a total of 3,990 admissions during the year with a daily average population of 2,501. Total patient days were 985,364 and the estimated cost per patient day \$2.00.

Mental Institutions

Quebec has seven mental hospitals under provincial control. In addition to these, there is one Dominion hospital at Ste. Anne de Bellevue and one private institution. The total bed capacity for the use of mental patients in above hospitals is 11,926.

On December 31, 1940, there were 13,293 patients under care, of which number 9,745 were with psychoses, 3,360 were mental defectives and all other types 188. There was an additional 1,459 under care in boarding homes.

Total revenue was \$6,085,930.83, of which \$2,910,480.56 came from provincial sources, \$611,824.46 from the Dominion Government, \$480,830.94 from paying patients and \$2,082,794.87 from all other sources.

Total expenditures came to \$6,097,252, of which sum \$3,740,236 were for direct maintenance of patients and \$2,357,016.58 for non-maintenance expenditures.

CHAPTER VI

Ontario

Ontario, the second largest province in Canada, has an area of 412,582 square miles and its population on June 2, 1941 was 3,787,655 which gave 9 persons to the square mile. Of the total population, 923,523 or 25 per cent were under 14 years of age; 2,631,784 or 69.6 per cent between 15 years and 64 and 201,325 or 5.4 per cent 65 years of age and over. Of the total population, 1,449,022 or 38.2 per cent were rural and 2,338,633 or 61.8 per cent urban.

The census population is based on counties, of which Ontario has 54. Northern Ontario comprises the districts of Algoma, Cochrane, Kenora-Rainy River, Thunder Bay, Timiskaming, Nipissing and Parry Sound. There are 43 public hospitals in this section with 2,230 beds to meet the needs of the population which on June 2, 1941 was 363,137. The average number of hospital beds in this area per 1,000 of the resident population was 6.1. Southern Ontario, which comprises 47 counties, has a population of 3,424,518 and has 115 public hospitals with 14,113 beds or 4.1 beds per 1,000 of the population.

The following counties have no public hospitals but are served by hospitals in adjoining counties (the population of each county is also given):—Addington, 7,024; Dundas, 16,119; Glengarry, 18,803; Grenville, 15,931; Lennox, 11,348; Russell, 17,340; District of Patricia, 10,225. The six cities of Toronto, Ottawa, Hamilton, London, Windsor and Kingston had 55.9 per cent of the total bed capacity of all public hospitals in Ontario. The most highly hospitalized population was that of Frontenac county with 205 per 1,000 of the population. Other counties with high hospitalization rates were:—Thunder Bay, 149; Carleton, 135; Stormont, 131; Kenora, 133 and Middlesex, 114. These must be considered crude rates as it is not possible to state how many were residents of the given county and how many came from outside counties to be hospitalized, or how many left the county to be hospitalized in other counties. Nine counties had less than 2 beds per 1,000 of the resident population, ten had 2 beds, ten had 3 beds, five had 4 beds, seven had 5 beds, five had 6 beds and two had 10.5 and 8.7. beds respectively. The average for the whole province was 4.3 beds per 1,000 of the population.

The total number of patients treated in Ontario public hospitals in 1940 was 322,653, which represented 8.6 per cent of the total population. The

total days' treatment was 4,009,128 days and the average days' stay was 12.4 days. The average number under care each day during the year was 9,736. The per cent of bed occupancy in all hospitals was 67.2. The percentage of bed occupancy varied from 81.7 in Carleton county hospitals to 14.0 per cent in Haliburton county.

The total revenue earned by all public hospitals was \$14,797,139 and total expenditures were \$12,883,990. The estimated cost per patient day for all hospitals was \$3.22.

Hospital Legislation

The province pays at the rate of 60 cents per day for every indigent patient up to 120 days and 10 cents a day for every day in excess of 120 days, with the proviso that provincial aid (except in a territorial district) shall not exceed the total of all amounts received in that year from municipalities. The province also pays 30 cents per day up to 14 days after birth for newborn babies.

The municipality pays \$1.75 per day for indigents and if municipality is in a territorial district the government may assist with special grants. The municipality also pays 60 cents a day for babies of indigent mothers.

In 1940 the Provincial Government paid statutory per diem grants of \$1,072,110.44 to public hospitals and a further sum of \$183,634.20 to incurable hospitals, a total of \$1,255,744.64. Municipalities paid \$2,724,364.57 to public hospitals and \$509,311.38 to incurable hospitals, a total of \$3,233,675.95.

Tuberculosis Institutions

Under an Amendment to the Sanatoria for Consumptives Act, which came into force on July 1, 1938, the province of Ontario abolished municipal liability for the maintenance of tuberculosis patients in sanatoria. Since that date the province pays the whole amount. The only municipal obligation is to provide transportation, after care upon discharge and burial expenses in the event of death. The province pays a grant of \$2.07½ per day for each patient regardless of whether or not the patient is an indigent. The sanatorium may, in addition, make a reasonable charge from non-indigent patients.

Ontario has thirteen sanatoria with a bed capacity of 3,638 beds. These institutions had under care in

1940 an average daily population of 3,385. Admissions totalled 3,161 and discharges 3,090.

Financial returns made by the sanatoria to the Dominion Bureau of Statistics for the year 1940 showed a total revenue of \$2,774,084, of which sum the province contributed \$2,378,732, the municipalities \$21,288 and the Dominion Government \$90,806. Paying patients contributed \$146,289. The average cost per patient day was \$2.30.

The province of Ontario is among the foremost provinces in adopting preventive measures against tuberculosis. The Provincial Government operates chest clinics in well over one hundred centres throughout the province. Twenty-five other clinics not under provincial auspices also are in operation.

Mental Hospitals

The public mental hospitals in Ontario are owned and operated by the province through the Depart-

ment of Health. Neither residence nor indigency are considered on admission. The most common measures of admission are:—voluntary, by certification of two medical practitioners, commitment by a magistrate or by warrant of the Lieutenant Governor.

Generally speaking, the entire cost of maintenance is paid by the Provincial Government.

In 1940, total expenditures in those 15 hospitals amounted to \$6,254,654.63, of which sum \$5,908,819 was for maintenance of patients. Towards meeting these expenditures, the Provincial Government contributed \$4,079,130, the Dominion Government, \$581,948.34, Municipalities, \$234,767.81 and paying patients \$1,036,199.

The number of patients in residence on December 31, 1940 was 14,153, as compared with 14,325 on January 1, 1940 and the daily average number under care during the year was 13,893.

CHAPTER VII

Manitoba

Manitoba, the most easterly of the Prairie Provinces, has an area of 246,512 square miles with a population on June 2, 1941 of 722,447, which gave 3 persons to the square mile. The province is regarded as typically agricultural, particularly in its southern portion. Its northern parts are important in the production of timber and contain besides large mineral deposits which are capable of great development.

On June 2, 1936 the population was 711,216 which increased to 729,714 on June 2, 1941. This represents an increase of 1.5 per cent during the five-year period. Of the total population in 1936, 56.3 per cent were rural. The farm population of the province comprised 261,167 of which number 143,210 were males and 117,957 were females. In 1935 the workers on Manitoba farms totalled 142,202, of which number 89,602 were members of family—83,070 males and 6,532 females. Permanent employees were 5,787, all males, and temporary employees totalled 46,873, of which number 44,058 were males and 2,815 were females.

The total number of farms was 57,774, of which 38,810 were operated by owners, 11,712 by tenants, 253 by managers and 6,779 by part owner and tenant. The total farm area was 15,668,927 acres, which was 11.1 per cent of the total land area. The average area of a farm was 271 acres. The total value of all farm lands was \$153,219,000; buildings \$71,628,000; machinery, \$35,792,300; live stock, \$40,902,400, making a total value of \$301,542,600. This total does not include automobiles which in 1936 had a value of \$4,344,807. The total amount of mortgage debts on owned land and buildings only was \$51,322,800 and the farms reporting mortgages 19,499. Lien on live stock, implements and machinery was \$2,360,700 and the number of farms reporting liens 5,476. The total farm expenses in 1935 were \$14,711,830 and the total value of farm products \$52,296,997. Mortgage and lien debts plus expenses totalled \$68,395,300.

Manitoba is divided into sixteen census divisions and it is around these divisions that the study of its hospitals are based.

Hospitals for the sick.—Manitoba has 42 public hospitals. All the census divisions, with one exception, are supplied by one or more public hospitals. Division 3 with a population of 24,598, with an area of 2,577 square miles, has no public hospital. The bed capacity of all public hospitals was 4,026 which gave

5.5 beds per 1,000 of the population of the province. The percentage of beds per 1,000 of the population in the various census divisions varied from 0.5 beds in Division 5 to 9.3 in Division 6 which includes such cities as Winnipeg, St. Boniface and Portage la Prairie. The number of patients treated in public hospitals in 1940 was 81,042, which represented 11.2 per cent of the total population. The total days' treatment given was 920,539 days and the average stay in hospital 11.3 days. The percentage of bed occupancy of all hospitals was 62.6, varying from low 31.2 in Division 12 to 70.1 in Division 6. Total expenditures for maintenance of patients amounted to \$3,217,233 which gave an average per diem cost of \$3.30 per patient day.

Personnel.—The total personnel of the forty-two hospitals was 2,425, of which number 55 were full-time and part-time salaried doctors and 71 interns. The number of graduate nurses engaged in public hospitals was 426. The eighteen public hospitals that had approved schools of nursing had 828 student nurses in training and 123 probationers. Fifteen public hospitals had organized medical staffs with 703 staff doctors in attendance. Twenty-five hospitals with non-organized medical staffs had 132 doctors attending patients during the year. Eight public hospitals operated separate units for the treatment of tuberculous patients.

Tuberculosis Institutions.—Manitoba has three sanatoria with 632 beds. In addition to these hospitals, the Municipal Hospitals of Winnipeg devote 140 beds for tuberculous patients and four Indian hospitals have 50 beds for tuberculous patients. In 1940 the daily average population was 749, admissions 1,145, total patient days, 274,226, of which total 208,281 days were given in the three sanatoria. Total revenue of the three sanatoria in 1940 was \$425,687, of which total the province contributed \$137,672, municipalities, \$245,332 and the Dominion Government, \$7,398. Total government grants represented 91.7 per cent of total revenue. Paying patients contributed \$18,237, or 4.3 per cent of revenue earned. Expenditures amounted to \$458,549 which gave a per capita cost of \$2.30 per day for maintenance of patients.

Mental Institutions.—Manitoba has four mental institutions, viz.,

Hospital for Mental Diseases, Selkirk
Hospital for Mental Diseases, Brandon

Psychopathic Hospital, Winnipeg
Manitoba School for Mental Defectives,
Portage la Prairie.

The normal bed capacity of above institutions in 1941 was 2,381. The average daily population during the year was 2,867. The number under care during the year was 3,663, while total admissions was 748.

Total revenue amounted to \$625,447.79 of which the Provincial Government contributed 65 per cent, municipalities 10 per cent, Dominion Government, 4.1 per cent, paying patients 14.5 per cent and receipts from other sources, 6.4 per cent. As any deficits are met by the Provincial Government, above revenues correspond with total expenditures.

CHAPTER VIII

Saskatchewan

The area of Saskatchewan is 251,700 square miles. With the exception of a narrow strip along the northern boundary, the whole of the province is overlain by generally fertile soil of great depth. The northern areas are abundantly watered by lakes and rivers, rich in timber resources and prospective mineral wealth, while the southern plains include a large portion of the great wheat fields of Canada.

The population on June 2, 1941 was 895,992 which gives 3.5 persons to the square mile. Almost two-thirds of the population live on farms.

Saskatchewan for population purposes is divided into eighteen census divisions and it is around these divisions that this study of hospitalization in the province is based.

The outstanding medical problem in this comparatively new country lies in the unequal distribution of its physicians. Eight cities and towns which embrace only 15 per cent of the total population had 45 per cent of all the physicians in the province in 1940—275 out of 611. Outside of these cities and towns only 336 physicians were available to look after the medical needs of nearly 800,000 people. While in the eight mentioned cities there was one physician to every 542 persons, elsewhere throughout the province the ratio was one physician to every 2,300 persons.

Saskatchewan is organized into local government units known as rural municipalities. The typical rural municipality is an area 18 miles square, divided into townships. The average population of a municipality is about 2,100 or about 6½ persons to the square mile.

Laws have been passed whereby local areas may tax themselves to pay the salaries of doctors and to construct hospitals. The provincial government pays to all general hospitals 50c for each day's care supplied to patients and one dollar per day's care given in sanatoria. In one municipality of 1,820 people two physicians are paid \$6,000 a year to provide medical and surgical services to its residents. It should be understood that these two physicians are the only ones resident or practising in the municipality. Another example of what a full-time doctor performs is worth recording. In a typical rural community with a population of 3,026, a full-time physician at a salary of \$4,000 is employed. He provides general medical services, obstetrical care

and minor surgery to these people. He acted also as the local health officer. He gave 2,211 office consultations, 1,527 hospital visits, 187 visits to towns and 130 country calls. He attended 58 maternity cases, performed 332 minor surgical operations, as well as 41 emergency major operations. His mileage totalled 2,573.

In 1940, 97 out of 300 rural municipalities had local plans whereby physicians were paid salaries to furnish the residents of the area with medical services. In addition, 64 towns and villages have set up similar plans. These 161 communities embraced a total population of 203,000 or 25.6 per cent of the population outside the eight large cities.

Sixty-one rural municipalities and 14 towns and villages pay for hospitalization of their residents. The municipality entered into a written agreement with a hospital or hospitals whether urban or rural, usually for a daily rate of \$2.00 to \$2.75, in return for which all residents of the municipality receive all ordinary hospital services. Many other arrangements between the municipality and the hospitals are found to exist.

The number of public hospitals operating in Saskatchewan in 1940 was 89, divided as follows:—Union District hospitals, 23; Community, 22; Catholic Religious Orders, 18; Municipal, 9; United Church, 4; Presbyterian Church, 1; Doctors', 3; Children's, 1 and Red Cross, 9. All these hospitals received government aid during the year.

The total number of beds in these hospitals was 4,315 which gave 4.8 beds per 1,000 of the population; 86,008 persons were admitted during the year or 9.7 per cent of the population of the province. The total days' treatment was 893,167 days and the average stay of patients in hospital was 10.3 days. The percentage of beds occupied was 56.7.

The revenue earned by hospitals was \$2,759,828 and total expenditures amounted to \$2,853,535. The average cost per patient day in the eighty-nine public hospitals was \$3.30.

Tuberculosis Sanatoria—In the province of Saskatchewan all persons suffering from tuberculosis are given free treatment in the sanatoria. Tuberculosis patients residing in the province can go to the sanatorium free of cost and remain there until the disease is healed. The expenses for the care of

patients is met by municipal levies, the government and various contributions.

There are three sanatoria in the province but several general hospitals receive tuberculous patients at the expense of the Anti-Tuberculosis League.

The number of beds available for tuberculous patients was 762. Admissions during the year totalled 740 and the total under care during the year 1,632. The collective days' stay of patients was 287,800 with an average number of patients daily of 789. The total cost of treatment was \$689,984.74 and the per diem cost \$2.40.

Twelve stationary tuberculosis clinics, three travelling clinics and two survey clinics are operated and maintained by Christmas Seal funds. The various medical services of the League including treatment, diagnosis, follow-up, Indian research, examination of

school children, nurses and teachers comprise a total of 47,598 persons who had medical advice during the year.

Mental Hospitals—Saskatchewan has two mental hospitals with a bed capacity of 2,700. The total patients under care during the year was 4,157 and the number remaining at end of the year, 3,767.

The staff comprised:—Salaried doctors, 15; technicians, dentists, 2; graduate nurses, other nurses and attendants, 521; clerical and others, 197, making a total of 735. The total revenue was \$1,643,762.12, made up of paying patients, \$112,726.23, provincial grants, \$1,409,207.11 and other sources \$121,828.78.

Expenditures for maintenance amounted to \$1,377,027.12 and for non-maintenance \$266,735.

The average cost per patient day for maintenance was \$1.02.

CHAPTER IX

Alberta

The population of Alberta on June 2, 1941, was 796,169. Its area is 255,285 square miles, which gives three persons living to the square mile. With the exception of a fringe of mountainous country on its western border, the whole of the province is overlain by arable soil of great depth. Alberta has two marked features: (1) the great valley of the Peace River which has resulted in the extension of settlement farther north than any other province in Canada and (2) the great grazing lands of the south in the Foothills district continuing to the slopes of the Rocky Mountains. Considerable coal and oil mining are carried on besides lumbering and ranching. The climate on the whole is pleasant, cool in summer and tempered in winter by the "Chinook" winds.

In 1941 for every 100 urban residents there were 160 rural residents. There are four cities with a resident population of over 10,000—Edmonton, 93,817; Calgary, 88,904; Lethbridge, 14,612 and Medicine Hat, 10,571. There are 58 towns with populations between 500 and 3,000, and 140 villages having between 100 and 500 resident population.

The great need of hospitalization in the rural areas of Alberta led to the passing of an Act in 1917 called the Municipal Hospitals Act which made provision for hospitalization to be supported largely as a cooperative community enterprise. In 1918 the first three municipal hospitals were opened, viz.: Mannville, Vermilion and Drumheller. At the present time the municipal hospital system of Alberta has reached a stage where fairly adequate provision has been made to meet the needs of the communities served. The Minister of Health may establish municipal hospital districts upon receipt of petitions from the councils of the municipalities concerned, or of twenty-five per cent of the resident ratepayers of each township within the area proposed to be established as a municipal hospital district.

Municipal hospitals vary in size from twelve up to one hundred beds. Some serve districts in which the population is entirely rural, others include some of the larger towns and villages. One municipal hospital district comprises a city only, that is the Red Deer Hospital District. Another is located in the city of Drumheller. Many rural areas would have found it difficult to provide medical and hospital services in any way other than under the Municipal Hospital Act. The rate usually charged to ratepayers and hospital supporters in these muni-

cipal hospitals is one dollar a day, while others provide for the entire cost of hospitalization from taxation and make no charge per patient day. On the other hand, some charge the ratepayers \$1.50 a day. The average tax payable to a hospital in a municipal hospital district varies from \$2.00 per quarter section to \$4.50 and \$5.00. This tax is raised by a mill rate on the assessed value of the property. In the years of depression several municipal hospitals underwent financial difficulties because of the slow collection of hospital taxes but in years of prosperity the taxpayers' obligations are generously met because the people believe that the municipal hospital system constitutes a form of health insurance at a cheap rate.

Number of Public Hospitals—The number of public hospitals operating in the province on December 31, 1940, was 90, of which number 84 were General Public, one for Women, one for Children, two were Isolation and two were Special. All these hospitals are tax supported and receive provincial government grants. Of the public hospitals, 33 were municipal district hospitals, 25 were operated by the sisters of the Roman Catholic Church, 4 by the United Church, one by the Presbyterian Church and 5 by the Salvation Army, while 3 were operated in connection with industrial plants. None of the seventeen divisions was without at least one public hospital.

The bed capacity of these hospitals was 5,180, which gave 6.6 beds per 1,000 of the population. The total patients treated during the year was 96,755 which represents 12.2 per cent of the population of the province. The percentage of beds occupied was 55.7 and the total days' care 1,053,578 which gave an average stay of 10.9 days per patient under care. The revenue earned during the year amounted to \$4,024,444.56 and the expenditures \$3,566,510. The average cost per patient day was \$3.01.

Tuberculosis Sanatoria—Alberta has one sanatorium, Central Alberta Sanatorium at Calgary with 210 beds. Three public hospitals, Edmonton General, Royal Alexandra and University Hospitals at Edmonton have an additional two hundred beds for tuberculous patients, giving a total of 410 beds for the care of tuberculous cases. The number of admissions in 1940 was 374, the total patients under care during the year 755, the total patient days 143,407 and the daily average population 392. The

total revenue was \$365,319, made up entirely of Provincial and Dominion Grants.

Mental Hospitals—Alberta has five mental institutions with a total of 2,443 beds. There were 3,408 under care during the year. The number of admissions during the year was 645. Total receipts

during the year amounted to \$986,711.18, of which sum \$859,505.23 was derived from Provincial and Dominion Grants, \$97,316.73 from patients and \$29,889.22 from other sources. Eighty-seven per cent of the cost of maintenance was derived from provincial sources.

CHAPTER X

British Columbia

The province of British Columbia has an area roughly estimated at 373,000 square miles and is third in area among the provinces of Canada. Its population as on June 2, 1941 was 809,203 which gives $2\frac{1}{2}$ persons to a square mile. A very small portion of its vast area is settled or even partially developed. The tempering effect of the Pacific Ocean makes the winters of the coastal area mild and the summers cool and the southwesterly part is classed by climatologists as one of the four most favoured climatic zones in the world. The population is mostly centred in the southern portion of the province.

British Columbia is divided into ten (10) census divisions or population units for which the Dominion Bureau of Statistics publishes basic population figures. In these divisions are centred the cities, towns, villages, urban and rural municipalities, school districts, hospitals, industrial centres, etc., and it is important to be able to find out at a few minutes' notice how many people live in each division, their occupations, ages, the number of wage earners, number of unemployables, as also the hospital and medical services available in each of the ten areas mentioned.

Since under a national health insurance plan the public hospital must provide accommodation for insured persons for the care and treatment of those suffering from acute diseases, or who need surgical or medical care, a detailed analysis has been made of this class of hospitals only. Mental hospitals, sanatoria, incurable diseases hospitals are for special classes of patients for whose care financial provision has already been provided.

How Hospitals Are Controlled—Of the 77 public hospitals, 19 were controlled and operated by hospital societies under governing boards, 25 by lay corporations, 20 by church organizations, 5 by municipalities, 5 by the Canadian Red Cross Society, one by the provincial government and one by a rural community.

Provincial Aid to Hospitals—When a public hospital fulfils the requirements laid down by the Hospital Act, it receives financial aid from the public monies

of the province. The following rates of aid are in force:—

	Days' care	Rate
1	Between 365 and 500 days	\$ 635
2	" 500 and 1000 days	1.25 per day per patient
3	" 1000 and 1500 days	.95 " " "
4	" 2500 days and over for the first 2500 days' treatment of such excess, in addition to aid mentioned in 2 and 3.	.80 " " "
5	Over 5,000, 75c per day per patient for the first 5000 days plus aid mentioned in 2, 3 and 4.	
6	Over 10,000 days, 70c plus aid mentioned in 2, 3, 4 and 5.	
7	\$1.25 a day for each patient treated in a sanatorium or tubercu- losis institution.	

N.B. No aid shall be given any hospital which refuses to admit any patient on account of his indigent circumstances.

Public Hospitals—The number of public hospitals in British Columbia in 1940 was 77 with a bed capacity of 6,038 which gives 7.5 beds per 1,000 of the population. Of these hospitals, 63 or 83 per cent were situated south of the 53rd parallel. The area of British Columbia south of the 53rd parallel approximates roughly 46 per cent of the total area of the province and has a population of about 739,000, showing an average of about 4.4 persons to the square mile. The bed capacity of the 63 hospitals in this area was 5,607 or 92.5 per cent of the total beds in the province, giving an average of 7.5 beds per 1,000 resident patients in this area.

Over fifty per cent of the geographical area of British Columbia lies north of the 53rd parallel. The population of this northern area in 1941 was around 70,000, scattered over an area of 198,000 square miles, or with 2.8 persons to the square mile. In this vast area there are 13 public hospitals with 439 beds which gives an average of 6 beds per 1,000 of the population.

Highly industrialized areas where group insurance exists show a much higher occupancy of hospital beds than urban centres where no such group insurance plans operate, which goes to prove that under a national insurance scheme the available beds in public hospitals will be filled to capacity and additional hospital accommodation will be needed in areas now with limited hospital accommodation or lacking hospital facilities alto-

gether. This will mean additional capital expenditures which must be met either by the province or by subventions by the Federal Government to the province which undertakes to adopt the proposed insurance plan.

Patients Treated in Public Hospitals—The number of patients entering British Columbia public hospitals in 1940 was 104,586 or 12.9 per cent of the total population. The total days' care given these patients amounted to 1,331,912 days, giving an average stay of 12.7 days per cent. The percentage of beds occupied in all hospitals in 1940 was 60.4.

Revenues and Expenditures—The total revenue earned by all public hospitals in 1940 was \$5,998,171 and the total expenditures \$5,540,673 which gives a per capita cost per patient day for all hospitals of \$3.79.

Public hospitals in British Columbia earned from in-patients and out-patients during the year \$5,161,600. These gross earnings were reduced to \$3,013,993 by rebates, courtesy, free and bad debts which amounted to \$2,147,607.

The net income was increased by provincial per capita grants (\$937,427), municipal per capita grants (\$581,104), special provincial grants (\$11,340), special municipal grants (\$235,514) and other grants (\$25,984), making a total operating revenue of \$4,805,312.

Other revenues, such as special capital income, donations and investments produced a grand total revenue of \$5,998,171.

NOTE: Breakdown of Revenue by sources: — Payments from patients, 50.2; from province, 16.4; from municipalities, 13.6; other sources (special, capital income, donations, investments), 19.8.

Economic Status of Patients—A hospital survey made in British Columbia in 1935 in 22 representative public hospitals which had an enrollment of 14,262 patients on its books during the six-month period ended December 31, 1935 showed the economic status of admitted patients, patient days and average length of stay for each economic group, viz., full-pay patients, part-pay patients, non-payment, relief and not stated.

The following table sets out the information obtained—

**ECONOMIC CONDITIONS AND AVERAGE DAYS' STAY OF PATIENTS
IN PUBLIC HOSPITALS IN BRITISH COLUMBIA, 1935.**

Economic Status	Patients		Patient Days		Average length of stay
	Number	% of total number	Number	% of total number	
Full pay.....	14,262	57.7	192,788	42.3	13.5
Part pay.....	1,950	7.9	51,320	11.3	26.3
Non-pay.....	4,877	19.7	145,895	32.0	29.9
Relief.....	2,540	10.3	49,693	10.9	19.6
Not stated.....	1,098	4.4	16,146	3.5	14.7
TOTAL.....	24,727	33.5*	455,842	41.1*	18.4

* These are the percentages of the total patients and patient days in the province.

Above figures support the results obtained in 1933 by a similar survey in the province of Ontario, as the following comparisons show:—

	British Columbia	Ontario
	%	%
Full and half pay	65.6	62.0
Nothing	30.0	30 to 35

Due to the large increase in the number of people employed in 1942, the number of indigents would be less than in 1935.

Definition of Indigent—No satisfactory definition of an "indigent" has yet been established which would be acceptable to the province and the municipalities which pay the hospital for the care of such patients.

Quite a number of patients, on admission to hospitals, are on Government relief or on city relief and are for these reasons accepted by the hospital as indigent but when their hospital accounts are sent to the proper authorities, the latter refuse to recognize them as being indigent and refuse payment for services rendered.

It is evident that until a satisfactory definition of indigency is established each case must be judged on its merits. Unemployment relief, whether government, municipal or city, is basically a temporary device and the receipt thereof should not alone be sufficient to classify a person as "indigent" or "unable to pay". Such a person, it is true, cannot pay at the time but may be able to pay in the future. A person

receiving relief may be unable to pay his hospital expenses, but this cannot be determined without taking into consideration the person's usual occupation, whether he owns property, his age, physical and mental condition, training and future prospects.

A married labourer, 60 years old, receiving relief is not likely to ever earn more than a bare existence and should be considered as a person "unable to pay" and should be considered a "free patient" and entitled to full medical care. On the other hand, a younger man who may have considerable future earning possibilities and opportunities of employment should be considered a potential "pay patient".

The status "indigent" is still undefined in several provinces and subject to different interpretations in different parts of the Dominion, while the term is not used at all in some provinces. The general interpretation of an indigent in general acceptance, however, is "one entitled to free hospital services whose annual income or earnings has been ascertained to be on such a low scale that if any part or portion thereof were applied to defray his present hospital expenses, either by a lump sum at his discharge or by deferred payments, such payment or payments would deprive him and those dependent on him of recognized minimum requirements in regard to food, clothing and shelter."

The question then as to whether or not a patient is entitled to "free service" lies with the hospital which should keep records of such cases proving inability to pay. Such proof should be available for inspection by the proper authorities when the hospital demands payment for services rendered to persons unable to pay.

Another interesting table taken from the British Columbia survey gives the percentage of patients and patient days and average days' stay for certain classes of disease for 24,727 patients under care during the six-months period ended December 31, 1935 in 22 representative public hospitals.

Group Hospitalization

The following centres in British Columbia have adopted some form of Group Hospitalization Insurance. Many of these have been in existence for several years. The following table sets out the name of the hospital, rates and benefits:—

Name of Hospital	Rate of payment	Benefits	Persons not accepted	Success of plan
NANAIMO	50c per month for persons without dependents and 75c if dependents be included.	Six months' illness in any one year recognized and a three-months waiting period. Public ward only. Emergency care in another hospital is paid for at public ward rate.	Maternity and certain diseases.	Very satisfactory to subscribers. In operation since 1926.
KAMLOOPS	\$12.00 per year.	3 months hospitalized in public ward to subscribers and dependents under 21 years. Many extras are included, e.g. maternity cases, operating room, X-Ray, etc. Doctors' fees not included.	Alcoholic, venereal, or chronic diseases. Mental cases.	Very satisfactory. All claims fully met and a fair surplus left.
ST. LUKE'S HOSPITAL, POWELL RIVER	\$12.00 per year.	Public ward accommodation for 90 days including maternity, stock drugs, anaesthetics, dressings, operating room and 25 per cent reduction in all X-Ray plates. There is a waiting period of 2 months except in case of accident or injury after first payment, and 6 months for maternity cases.	Alcoholics, venereal and chronic diseases.	Very satisfactory as far as hospital and subscribers are concerned.
TRAIL	\$30.00 per year of which \$14.64 goes to direct hospital care.	Hospital care for unlimited period in public wards with dressings, drugs, serums, X-Ray, medical, surgical and obstetrical services. Also cash benefits during illness.	Non-employees and those suffering from venereal and chronic diseases.	Very satisfactory.
PORT ALBERNI	\$9.00 per year.	3 months public ward care to each subscriber, wife and dependents under 17 years of age. Maternity care and extras included.	Venereal and chronic diseases.	Very satisfactory. Subscribers satisfied.

Other hospitals with similar schemes are Invermere, Merritt, Nakusp, Campbell River and Bella Bella.

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditure \$	Cost per Patient Day \$
PRINCE EDWARD ISLAND.....		286	3.0	6,795	7.2	65,782	63.0	9.7	159,770	154,602	2.35
Kings.....		17	1.1	247	1.3	2,669	43.0	10.8	7,255	7,959	2.98
Montague.....	King's County.....	17	—	247	—	2,669	43.0	10.8	7,255	7,959	2.98
Prince.....		65	1.9	2,671	7.8	20,962	88.4	7.8	41,789	36,273	1.73
Summerside.....	Prince County.....	65	—	2,671	—	20,962	88.4	7.8	41,789	36,273	1.73
Queens.....		204	5.0	3,877	9.6	42,151	56.6	10.9	110,726	110,370	2.62
Charlottetown.....	Charlottetown.....	88	—	1,626	—	19,094	62.0	12.2	35,685	35,298	1.85
	Prince Edward Island.....	116	—	2,251	—	23,057	54.5	10.2	75,041	75,072	3.26
NOVA SCOTIA.....		2,644	4.6	58,447	10.2	633,967	65.7	10.8	1,645,120	1,760,733	3.28
Annapolis.....		57	3.1	1,326	7.6	10,651	51.2	8.0	26,919	24,127	2.27
Annapolis Royal.....	General.....	23	—	508	—	4,512	53.7	8.9	11,398	10,910	2.42
Middleton.....	Soldiers Memorial.....	34	—	818	—	6,139	49.5	7.5	15,521	13,217	2.15
Antigonish.....		185	1.8	3,625	3.4	33,588	49.7	9.3	145,325	137,572	4.09
Antigonish.....	St. Martha's.....	185	—	3,625	—	33,588	49.7	9.3	145,325	137,572	4.09
Cape Breton.....		825	7.5	16,603	1.5	173,415	57.6	10.4	580,184	603,125	3.59
Glace Bay.....	General.....	228	—	2,507	—	30,780	37.0	12.3	132,190	121,140	3.94
Glace Bay.....	St. Joseph's.....	206	—	4,725	—	41,911	55.7	8.9	148,961	158,662	3.79
New Waterford.....	General.....	83	—	2,411	—	23,116	76.3	9.6	56,547	64,608	2.79
North Sydney.....	Hamilton Memorial.....	75	—	1,032	—	14,347	52.4	13.9	38,296	35,169	2.45
Sydney..... ⁽³⁾	City of Sydney.....	110	—	1,738	—	26,319	65.6	15.1	102,544	123,380	4.69
Sydney..... ⁽³⁾	St. Rita's.....	54	—	2,611	—	20,695	105.0	7.9	60,910	67,260	3.24
Sydney..... ⁽¹⁾	Salvation Army.....	24	—	642	—	5,461	62.3	8.5	No Report	—	—
Sydney Mines.....	Harbour View.....	45	—	937	—	10,822	66.6	11.5	40,636	32,906	3.04
Colchester.....		63	2.1	1,889	6.2	18,058	78.5	9.6	54,995	54,969	3.04
Truro.....	Colchester County.....	63	—	1,889	—	18,058	78.5	9.6	54,995	54,969	3.04
Cumberland.....		150	3.9	3,270	8.4	32,868	60.0	10.1	103,166	88,135	2.68
Amherst.....	Highland View.....	88	—	1,377	—	15,591	48.5	11.3	53,944	49,569	3.18
Springhill.....	All Saint's.....	62	—	1,893	—	17,277	76.3	9.1	49,222	38,556	2.23
Digby.....		31	1.6	647	3.4	6,181	54.6	9.6	21,118	23,295	3.77
Digby.....	General.....	31	—	647	—	6,181	54.6	9.6	21,118	23,295	3.77
Guysboro.....	None.....	—	—	—	—	—	—	—	—	—	—
Halifax.....		706	6.8	18,062	14.9	227,579	88.3	12.6	331,650	421,348	3.12
Halifax..... ^(1, 4)	Infirmary.....	210	—	6,190	—	78,985	103.0	12.8	No Report	—	—
Halifax.....	Victoria.....	245	—	6,202	—	81,342	91.0	13.1	232,450	313,151	3.85
Halifax.....	Salvation Army Grace.....	98	—	2,998	—	30,393	85.0	10.1	58,338	61,790	2.03
Halifax.....	Children's.....	80	—	1,501	—	23,260	79.7	15.5	40,862	46,407	2.00
Halifax..... ⁽¹⁾	Infectious Diseases.....	73	—	1,171	—	13,599	51.0	11.6	No Report	—	—
Hants.....		55	2.5	1,968	8.9	14,822	73.8	7.5	30,311	39,079	2.64
Windsor.....	Payzant Memorial.....	55	—	1,968	—	14,822	73.8	7.5	30,311	39,079	2.64

NOTES: ⁽¹⁾ Patient days not included in computing per diem cost.⁽²⁾ 91 T.B. patients and 14,013 patient days included.⁽³⁾ Hospital has a bed complement of 63.⁽⁴⁾ Hospital has a bed complement of 315.

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
 (Continued)

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
(Continued)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditure \$	Cost per Patient Day \$
NEW BRUNSWICK											
—Continued.											
Restigouche.....		205	6.3	4,154	12.7	46,151	61.7	11.1	140,801	128,517	2.78
Campbellton.....	H.-D. of St-Joseph.....	140	—	2,971	—	33,365	65.3	11.2	94,052	99,651	2.99
Campbellton.....	Soldiers' Memorial.....	65	—	1,183	—	12,786	53.9	10.8	46,749	28,866	2.26
Saint John.....		556	8.4	9,637	14.3	131,502	63.7	13.5	446,605	404,331	3.07
Saint John.....	General.....	404	—	7,681	—	106,617	72.3	13.9	356,450	313,905	2.94
Saint John.....	St. Joseph's.....	122	—	1,521	—	19,797	44.5	13.0	80,150	79,430	4.01
Saint John.....	Evangeline Maternity.....	40	—	435	—	5,088	34.8	11.7	10,005	10,996	2.16
Sunbury.....	None.....	—	—	—	—	—	—	—	—	—	—
Victoria.....	None.....	—	—	—	—	—	—	—	—	—	—
Westmorland.....		251	3.9	5,148	8.1	55,174	60.2	10.7	213,251	220,745	4.00
Moncton.....	H.-D. de l'Assomption.....	125	—	2,071	—	24,475	53.6	11.8	66,904	72,123	2.95
Moncton.....	Moncton.....	126	—	3,077	—	30,699	66.8	10.0	146,347	148,622	4.84
York.....		137	3.8	2,138	5.9	24,754	49.5	11.6	126,614	130,030	5.25
Fredericton.....	Victoria.....	137	—	2,138	—	24,754	49.5	11.6	126,614	130,030	5.25
QUEBEC..... ⁽¹⁾		14,482	4.4	201,881	6.1	3,772,685	71.4	18.7	12,801,386	13,414,168	3.75
Abitibi.....		38	.5	798	1.2	9,241	66.6	11.6	16,960	21,185	2.29
Amos.....	Hôpital Ste-Thérèse.....	38	—	798	—	9,241	66.6	11.6	16,960	21,185	2.29
Argenteuil.....	None.....	—	—	—	—	—	—	—	—	—	—
Arthabaska.....		78	2.6	1,257	4.2	13,737	48.2	10.9	64,694	57,106	4.16
Arthabaska.....	H.-D. de St-Joseph.....	78	—	1,257	—	13,737	48.2	10.9	64,694	57,106	4.16
Bagot.....	None.....	—	—	—	—	—	—	—	—	—	—
Beauce.....		69	1.4	629	1.3	13,442	53.4	21.3	34,564	33,314	2.47
Beauceville Ouest.....	Hôpital St-Joseph.....	69	—	629	—	13,442	53.4	21.3	34,564	33,314	2.47
Beauharnois.....		147	4.8	1,723	5.7	23,467	43.7	13.6	101,027	97,872	4.17
Valleyfield.....	Hôtel-Dieu.....	147	—	1,723	—	23,467	43.7	13.6	101,027	97,872	4.17
Bellechasse.....		40	1.7	580	2.5	5,365	36.7	9.2	21,541	20,340	3.79
Ville Marie.....	Hôpital Ste-Famille.....	40	—	580	—	5,365	36.7	9.2	21,541	20,340	3.79
Berthier.....	None.....	—	—	—	—	—	—	—	—	—	—
Bonaventure.....	None.....	—	—	—	—	—	—	—	—	—	—
Brome.....	None.....	—	—	—	—	—	—	—	—	—	—
Chambly.....	None.....	—	—	—	—	—	—	—	—	—	—
Champlain.....		54	.8	691	1.0	8,964	45.5	12.9	45,672	44,670	4.98
La Tuque.....	Hôpital St-Joseph.....	54	—	691	—	8,964	45.5	12.9	45,672	44,670	4.98
Charlevoix.....	None.....	—	—	—	—	—	—	—	—	—	—
Châteauguay.....	None.....	—	—	—	—	—	—	—	—	—	—

NOTE: ⁽¹⁾192,019 patient days of six hospitals which did not furnish financial returns are not included in computing per diem cost.

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
(Continued)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditure \$	Cost per Patient \$
QUEBEC—Continued.											
Chicoutimi.....		220	2.8	3,910	4.9	48,904	60.9	12.5	—	—	—
Chicoutimi.....	H.-D. St-Vallier.....	220	—	3,910	4.9	48,904	60.9	12.5	No	Report	—
Compton.....	None.....	—	—	—	—	—	—	—	—	—	—
Deux-Montagnes.....	None.....	—	—	—	—	—	—	—	—	—	—
Dorchester.....	None.....	—	—	—	—	—	—	—	—	—	—
Drummond.....		41	1.1	873	2.4	9,179	61.3	10.5	21,352	29,525	3.22
Drummondville.....	Hôpital Ste-Croix.....	41	—	873	2.4	9,179	61.3	10.5	21,352	29,525	3.22
Frontenac.....	None.....	—	—	—	—	—	—	—	—	—	—
Gaspé..... ⁽²⁾		288	5.2	2,863	5.2	70,781	67.3	24.7	297,165	328,353	4.64
Cap-aux-Meules.....	Hôpital N.-D. de la Garde.....	90	—	453	—	19,067	58.0	42.1	36,459	58,883	3.09
Gaspe Harbour.....	H.-D. de Gaspé.....	78	—	1,299	—	18,956	66.6	14.6	218,786	222,485	1.74
Ste. Anne des Monts.....	Hôpital Ste-Anne.....	120	—	1,111	—	32,758	74.8	29.5	41,920	46,985	1.43
Hull (Gatineau).....		198	2.8	3,973	5.6	48,265	66.8	12.1	106,090	112,391	2.33
Hull.....	Hôpital du Sacré-Coeur.....	170	—	3,500	—	44,122	70.6	12.6	92,483	98,684	2.24
Maniwaki.....	Hôpital St-Joseph.....	28	—	473	—	4,143	40.5	8.8	13,607	13,707	3.30
Huntington.....	None.....	—	—	—	—	—	—	—	—	—	—
Iberville.....	None.....	—	—	—	—	—	—	—	—	—	—
Joliette.....		77	2.4	1,519	4.8	16,978	60.4	11.1	116,381	136,846	.81
Joliette..... ⁽³⁾	Hôpital St-Eusèbe.....	77	—	1,519	—	16,978	60.4	11.1	116,381	136,846	.81
Kamouraska.....	None.....	—	—	—	—	—	—	—	—	—	—
Labelle.....		50	2.2	396	1.7	4,188	22.9	10.6	41,818	43,395	10.36
Mont Laurier..... ⁽⁴⁾	Hôpital Ste-Anne.....	50	—	396	—	4,188	22.9	10.6	41,818	43,395	10.36
Lac St-Jean.....		66	1.0	1,058	1.6	13,191	54.7	12.5	—	—	—
Roberval.....	Hôtel-Dieu St-Michel.....	66	—	1,058	—	13,191	54.7	12.5	No	Report	—
Laprairie.....		46	3.3	161	1.2	6,105	36.3	37.9	11,192	10,482	1.72
Caughnawaga.....	Hôpital du Sacré-Coeur.....	46	—	161	—	6,105	36.3	37.9	11,192	10,482	1.72
L'Assomption.....	None.....	—	—	—	—	—	—	—	—	—	—
Lévis.....		212	5.6	3,144	8.3	39,364	50.8	12.5	197,140	208,414	5.29
Lévis.....	H.-D. du Coeur Agonisant de Jésus.....	212	—	3,144	—	39,364	50.8	12.5	197,140	208,414	5.29
L'Islet.....	None.....	—	—	—	—	—	—	—	—	—	—
Lotbinière.....	None.....	—	—	—	—	—	—	—	—	—	—
Maskinongé.....	None.....	—	—	—	—	—	—	—	—	—	—

NOTES: ⁽¹⁾ Includes T.B. — 71 beds, 293 patients, 30,164 patient days.

⁽²⁾ Revenue and Expenditures includes orphanage and home for aged.

⁽³⁾ Does not include number of incurable patients or patient days.

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
(Continued)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditure \$	Cost per Patient Day \$
QUEBEC—Continued.											
Matane.....		55	1.0	752	1.4	14,904	74.2	19.8	45,368	39,745	2.67
Matane.....	Hôpital St-RédempEUR.....	55	—	752	—	14,904	74.2	19.8	45,368	39,745	2.67
Mégantic.....		271	6.7	1,586	3.9	86,113	87.1	54.3	169,412	147,677	1.71
Plessisville	Hôpital du Sacré-Coeur.....	98	—	401	—	30,838	86.2	76.9	63,482	62,153	2.02
Thetford Mines	Hôpital St-Joseph.....	173	—	1,185	—	55,275	87.5	46.6	105,930	85,524	1.55
Missisquoi.....		22	1.0	408	1.9	3,684	45.9	9.0	—	—	—
Sweetsburg.....	Brome-Missisquoi-Perkins....	22	—	408	—	3,684	45.9	9.0	No Report	—	—
Montcalm.....	None.....	—	—	—	—	—	—	—	—	—	—
Montmagny.....	None.....	—	—	—	—	—	—	—	—	—	—
Montmorency.....		57	3.0	419	2.2	5,104	24.5	12.1	35,129	32,834	6.43
Ste-Anne de Beaupré.....	Hôpital Ste-Anne de Beaupré.....	57	—	419	—	5,104	—	—	—	—	—
Montreal and Jesus Islands.....		8,610	7.6	119,336	10.6	2,517,494	80.1	21.1	8,811,492	9,398,701	3.73
Lachine.....	Hôpital St-Joseph.....	160	—	1,523	—	19,441	33.3	12.8	88,089	112,423	5.78
Lachine.....	General.....	54	—	925	—	10,760	54.6	11.6	35,227	36,692	3.41
Montreal.....	Homoeopathic.....	142	—	3,616	—	37,339	72.0	10.3	201,968	220,294	5.90
	Hôpital Notre-Dame.....	663	—	12,025	—	217,811	90.0	27.8	817,778	874,091	4.01
	Hôpital Ste-Jeanne d'Arc.....	275	—	4,658	—	76,531	76.2	16.4	249,161	264,458	3.46
	Hôpital Ste-Justine.....	540	—	8,061	—	162,896	82.6	20.2	498,764	587,757	3.61
	Hôpital St-Luc.....	458	—	7,353	—	148,982	89.1	20.3	570,959	624,208	4.19
	Hôtel-Dieu de Montréal.....	387	—	8,063	—	140,553	99.5	17.4	492,563	521,383	3.71
	Jewish General.....	226	—	4,842	—	61,766	74.9	12.8	338,936	342,129	5.54
	Montreal General.....	605	—	12,187	—	187,979	85.1	15.4	1,310,511	1,285,566	6.84
	Royal Victoria.....	789	—	16,897	—	220,543	76.6	13.1	1,255,655	1,352,578	6.13
	St. Mary's.....	242	—	5,548	—	69,320	78.5	12.5	268,957	298,128	4.30
	Catharine Booth Mothers'.....	100	—	1,141	—	13,281	36.4	11.6	28,653	38,271	2.88
(7)	Hôpital Général de la Miséricorde.....	107	—	2,403	—	24,833	63.6	10.3	189,066	207,477	3.13
	The Woman's General.....	225	—	4,068	—	56,333	68.6	13.8	167,132	173,765	3.08
	Children's Memorial.....	270	—	3,504	—	71,042	72.1	20.3	221,271	301,660	4.25
	Montreal Children's.....	63	—	1,719	—	19,894	86.5	11.6	41,180	55,941	2.81
	Shriners'.....	107	—	366	—	22,046	56.4	60.2	83,191	83,191	3.77
	Alexandra Isolation.....	172	—	1,793	—	49,541	78.9	27.6	170,450	183,846	3.71
	Hôpital Pasteur.....	325	—	2,897	—	101,277	85.4	35.0	346,085	393,102	3.88
	Hôpital St-Joseph des Convalescentes.....	175	—	940	—	46,200	72.3	49.1	53,068	53,610	1.14
	Montreal Convalescent.....	220	—	2,600	—	71,500	89.0	27.5	139,160	138,684	1.94
	Hôpital St-Jean Baptiste des Convalescents.....	50	—	270	—	13,105	71.8	48.5	10,359	9,501	.72
(8)	Hôpital du Sacré-Coeur.....	900	—	3,408	—	307,705	93.7	90.3	636,206	605,135	1.97
(7)	Hôpital Maternité Catholique.....	278	—	1,354	—	41,386	40.8	30.6	—	—	—
(9)	Hôpital H.-D. de la Merci.....	642	—	1,347	—	197,843	84.4	146.9	120,550	120,497	.61
	Institut du Radium.....	23	—	428	—	8,418	100.3	19.7	104,161	148,612	1.74
	Aide la Femme Ltée.....	125	—	383	—	34,520	75.7	9.0	79,620	76,908	2.23
St-Laurent.....	Hôpital H.-D. de l'Espérance.....	37	—	375	—	8,953	66.3	23.9	30,000	39,000	4.36
Verdun.....	Hôpital Général de Verdun.....	250	—	4,642	—	75,696	83.0	16.3	262,052	251,794	3.33

NOTES: (5) Includes T.B. — 64 beds, 137 patients, 21,428 patient days.

(6) Includes T.B. — 60 beds, 119 patients, 18,081 patient days.

Incurables — 63 beds, 203 patients, 26,392 patient days.

(7) Revenue and expenditures includes Hopital Maternité Catholique.

(8) Includes — 520 beds for T.B. and incurables, 1,224 patients, 167,447 patient days.

(9) Includes — Incurables — 472 beds, 246 patients, 13,220 patient days.

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
(Continued)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
QUEBEC—Continued											
Napierville.....	None.....										
Nicolet.....		80	2.7	583	1.9	10,421	35.6	17.9	107,571	99,654	9.56
Nicolet.....	Hôpital du Christ-Roi.....	80	.....	583	1.9	10,421	35.6	17.9	107,571	99,654	9.56
Papineau.....		86	3.1	696	2.5	7,793	24.8	11.2	22,214	31,029	3.98
Buckingham.....	Hôpital St-Michel.....	86	.....	696	.....	7,793	24.8	11.2	22,214	31,029	3.98
Pontiac.....		25	1.3	270	1.4	2,232	24.4	8.3	13,560	13,871	6.21
Shawville.....	Pontiac Community.....	25	.....	270	.....	2,232	24.4	8.3	13,560	13,871	6.21
Portneuf.....	None.....										
Quebec.....		1,723	8.6	27,427	13.7	455,872	72.5	16.6	1,239,909	1,186,372	3.57
Quebec.....	Jeffrey Hales.....	196	.....	2,206	.....	33,340	46.6	15.1	167,019	188,825	5.66
Quebec.....	Hôpital de l'Enfant Jésus.....	404	.....	7,204	.....	124,563	84.5	17.3	278,015	284,535	2.28
Quebec.....	Hôpital St-François d'Assise.....	167	.....	3,016	.....	43,894	72.0	14.6	149,949	124,811	2.84
Quebec.....	Hôpital du St-Sacrement.....	325	.....	6,118	.....	94,427	79.6	15.4	359,955	348,389	3.69
Quebec.....	Hôtel-Dieu de Québec.....	375	.....	7,027	.....	111,602	81.5	15.9	No Report	.....	.....
Quebec.....	Hôpital Civique.....	110	.....	784	.....	12,120	30.2	15.5	No Report	.....	.....
Quebec.....	Hôpital de la Miséricorde.....	146	.....	1,072	.....	35,924	67.4	33.5	234,971	239,812	6.68
Richelieu.....	None.....										
Richmond.....	None.....										
Rimouski.....		262	5.9	2,827	6.4	42,549	44.5	15.1	160,962	137,148	3.22
Rimouski..... ⁽¹⁰⁾	Hôpital St-Joseph.....	262	.....	2,827	.....	42,549	44.5	15.1	160,962	137,148	3.22
Rouville.....	None.....										
Saguenay.....		110	3.5	968	3.4	35,566	88.6	36.7	35,925	34,290	1.04
Includes New Quebec											
Harrington Harbour.....	Grenfell.....	20	.....	136	.....	2,518	34.5	18.5	No Report	.....	.....
Havre St-Pierre..... ⁽¹¹⁾	Hôpital St-Jean Eudes.....	90	.....	832	.....	33,048	100.6	39.7	35,925	34,290	1.04
Shefford.....	None.....										
Sherbrooke.....		446	9.6	7,826	1.7	79,779	49.0	10.1	300,924	331,198	4.15
Sherbrooke.....	Hôpital Gén. St-Vincent de Paul	318	.....	5,613	.....	57,747	49.8	10.2	187,578	219,747	3.81
Sherbrooke.....	Sherbrooke Hospital.....	88	.....	2,189	.....	21,540	67.1	9.8	105,040	103,145	4.79
Sherbrooke.....	Hôpital Civique.....	40	.....	24	.....	492	33.7	20.5	8,306	8,306	1.69
Soulanges.....	None.....										
Stanstead.....	None.....										
St-Hyacinthe.....		172	5.5	2,431	7.7	27,351	43.6	11.2	104,064	100,130	3.66
St-Hyacinthe.....	Hôpital St-Charles.....	172	.....	2,431	.....	27,351	43.6	11.2	104,064	100,130	3.66
St-Jean.....		179	8.7	2,114	10.3	21,013	32.1	9.9	82,717	108,161	5.15
St-Jean.....	Hôpital St-Jean.....	179	8.7	2,114	.....	21,013	32.1	9.9	82,717	108,161	5.15

NOTE: ⁽¹⁰⁾ Includes T.B. — 76 beds, 199 patients, 22,632 patient days.

⁽¹¹⁾ Includes T.B. — 30 beds, 74 patients, 9,043 patient days.

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
 (Continued)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
QUEBEC—Continued											
St. Maurice.....		509	6.4	5,181	6.4	66,253	35.6	12.8	393,514	411,752	6.21
Shawinigan Falls.....	Hôpital Ste-Thérèse.....	100	.....	1,011	.....	13,914	38.7	13.8	44,661	44,661	3.21
Shawinigan Falls.....	Joyce Memorial.....	44	.....	923	.....	7,478	46.6	8.1	48,721	57,484	7.69
Three Rivers.....	Hôpital St-Joseph.....	365	.....	3,247	.....	44,861	33.7	13.8	300,132	309,607	6.90
Temiskaming.....		117	2.9	3,364	8.3	40,874	95.7	12.1	116,252	113,389	2.77
Noranda.....	Hôpital Youville.....	117	.....	3,364	.....	40,874	95.7	12.1	116,252	113,389	2.77
Temiscouata.....		134	2.3	2,118	3.7	24,512	50.1	11.5	86,777	84,324	3.44
Rivière-du-Loup.....	Hôpital St-Joseph du Précieux Sang.....	134	.....	2,118	.....	24,512	50.1	11.5	86,777	84,324	3.44
Terrebonne.....	None.....										
Vaudreuil.....	None.....										
Verchères.....	None.....										
Wolfe.....	None.....										
Yamaska.....	None.....										
ONTARIO											
Ontario.....		16,343	4.3	322,653	8.6	4,009,128	67.2	12.4	14,797,139	12,883,990	3.22
Addington.....	None.....										
Algoma.....		260	5.0	4,313	8.3	42,103	44.4	9.7	136,234	124,892	2.97
Blind River.....	St. Joseph's.....	32	.....	137	.....	1,621	13.9	11.8	3,608	3,902	2.41
Sault Ste-Marie.....	General.....	93	.....	1,798	.....	17,956	52.9	10.0	65,321	51,554	2.87
Sault Ste-Marie.....	Plummer Memorial.....	64	.....	1,560	.....	16,064	68.8	10.3	48,941	43,081	2.58
Blind River.....	Red Cross.....	26	.....	189	.....	1,278	13.5	6.8	3,472	4,612	3.61
Hawk Jct.....	Red Cross.....	11	.....	134	.....	931	23.2	6.9	3,123	4,342	4.66
Hornepayne.....	Red Cross.....	7	.....	67	.....	616	24.1	9.2	1,801	3,104	3.48
Richards Landing.....	Red Cross.....	12	.....	164	.....	1,311	29.9	8.0	4,087	6,285	3.79
Tessalon.....	Red Cross.....	15	.....	264	.....	2,326	42.5	8.8	5,881	8,012	3.44
Brant.....		297	5.3	4,912	8.8	66,285	61.1	13.4	206,895	212,742	3.20
Brantford.....	General.....	254	.....	4,348	.....	58,232	62.8	13.4	182,024	192,754	3.31
Paris.....	Willett.....	43	.....	564	.....	8,053	51.3	14.3	24,871	19,988	2.48
Bruce.....		92	2.2	1,481	3.6	15,078	44.9	10.1	48,864	41,523	2.75
Kincardine.....	General.....	45	.....	559	.....	6,596	40.2	11.8	18,743	15,034	2.28
Walkerton.....	Co. Bruce General.....	38	.....	841	.....	7,807	56.3	9.3	28,225	22,172	2.84
Lion's Head.....	Red Cross.....	9	.....	81	.....	675	20.5	8.3	1,896	4,317	3.84
Carleton.....		1,276	6.4	27,058	13.5	380,463	81.7	14.0	1,357,804	1,090,195	2.87
Ottawa.....	Civic.....	600	.....	13,923	.....	200,853	91.7	14.4	803,486	635,035	3.16
Ottawa.....	General.....	394	.....	7,775	.....	113,601	79.0	14.4	389,823	298,151	2.62
Ottawa.....	Salvation Army Woman's.....	102	.....	3,621	.....	37,092	99.6	10.2	61,453	60,806	1.64
Ottawa.....	Protestant Children's.....	55	.....	888	.....	10,342	51.5	11.6	41,368	34,529	3.34
Ottawa.....	Strathcona Isolation.....	125	.....	851	.....	18,575	40.7	21.8	61,674	61,674	3.32

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
(Continued)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
ONTARIO—Continued											
Cochrane		368	4.6	8,117	10.1	83,704	62.3	10.3	297,763	286,011	3.42
Cochrane	Lady Minto	70	.....	797	.....	15,898	62.2	19.9	38,953	37,763	2.38
Hearst	St. Paul's	41	.....	1,002	.....	13,011	86.9	13.0	30,564	31,184	2.40
Iroquois Falls	Anson General	38	.....	708	.....	8,323	60.0	11.8	30,208	41,735	5.01
Matheson	Rosedale War Memorial	19	.....	302	.....	3,147	45.4	10.4	9,552	9,543	3.03
South Porcupine	Porcupine General	44	.....	1,240	.....	10,551	65.7	8.5	49,923	42,482	4.03
Timmins	St. Mary's	156	.....	4,068	.....	32,774	57.6	8.1	138,563	123,304	3.76
Dufferin		45	3.2	769	5.4	9,829	59.8	12.7	30,326	24,906	2.53
Orangeville	Lord Dufferin	45	.....	769	.....	9,829	59.8	12.7	30,326	24,906	2.53
Dundas	None										
Durham		80	3.1	1,471	5.8	14,418	49.4	9.8	45,070	41,548	2.88
Bowmanville	General	30	.....	663	.....	5,816	53.1	8.8	17,516	16,879	2.90
Port Hope	Port Hope	50	.....	808	.....	8,602	47.1	10.6	27,554	24,669	2.87
Elgin		125	2.7	3,168	6.8	35,812	78.4	11.3	141,905	116,300	3.25
St. Thomas	Memorial	125	.....	3,168	.....	35,812	78.4	11.3	141,905	116,300	3.25
Essex		503	2.9	13,483	7.8	125,810	68.5	9.3	496,794	461,371	3.67
Windsor	Grace	120	.....	3,332	.....	36,336	83.0	10.9	111,919	107,190	2.95
Windsor	Hotel-Dieu	175	.....	4,889	.....	46,835	73.3	9.6	201,229	156,111	3.33
Windsor	Metropolitan	142	.....	3,610	.....	35,679	68.8	9.9	154,721	169,774	4.76
Windsor	Isolation	34	.....	113	.....	2,295	18.5	20.3	21,015	21,015	9.16
Windsor	Convalescent	32	.....	68	.....	4,665	39.9	68.6	7,910	7,281	1.56
Frontenac		561	10.5	10,913	20.5	126,450	61.7	11.6	493,179	414,676	3.28
Kingston	Hotel-Dieu	208	.....	3,711	.....	44,766	59.0	12.0	170,910	116,263	2.60
Kingston	General	353	.....	7,202	.....	81,684	63.4	11.3	322,269	298,413	3.51
Glengarry	None										
Grenville	None										
Grey		156	2.7	2,526	4.4	29,289	51.4	11.5	103,728	88,133	3.01
Durham	Red Cross Memorial	28	.....	235	.....	4,341	42.5	18.5	10,395	8,024	1.85
Hanover	Memorial	27	.....	366	.....	3,634	36.9	9.9	9,936	9,749	2.68
Owen Sound	General	101	.....	1,925	.....	21,314	57.8	11.0	83,397	70,360	3.30
Haldimand		30	1.3	499	2.3	4,752	43.4	9.5	15,298	15,386	3.24
Dunnville	War Memorial	30	.....	499	.....	4,752	43.4	9.5	15,298	15,386	3.24
Haliburton		19	2.8	146	2.2	970	14.0	6.6	3,338	6,154	6.34
Haliburton	Red Cross	15	.....	134	.....	872	15.9	6.5	2,509	3,638	3.25
Wilberforce	Red Cross	4	.....	12	.....	98	6.7	8.2	829	2,516	7.19
Halton		33	1.1	71	0.25	1,961	16.2	27.6	2,020	1,597	.81
Burlington	Children's Convalescent	33	.....	71	.....	1,961	16.2	27.6	2,020	1,597	.81

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
(Continued)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
ONTARIO—Continued											
Hastings.....		212	3.3	5,029	8.0	51,257	66.2	10.1	197,406	149,371	2.91
Belleville.....	General.....	193	.....	4,648	.....	48,332	68.6	10.4	189,803	138,809	2.87
Bancroft.....	Red Cross.....	12	.....	329	.....	2,499	58.4	7.6	6,155	7,052	2.82
Coe Hill.....	Red Cross.....	7	.....	52	.....	426	16.7	8.2	1,448	3,510	4.04
Huron.....		129	2.9	2,147	4.9	24,168	51.3	11.3	84,364	72,439	3.00
Clinton.....	Clinton Public.....	27	.....	477	.....	5,565	56.5	11.7	17,780	15,703	2.82
Goderich.....	Alexandra Gen. & Marine.....	50	.....	718	.....	9,539	52.3	13.3	35,789	28,625	3.00
Seaford.....	Scott Memorial.....	27	.....	552	.....	5,813	59.0	10.5	18,100	15,898	2.73
Wingham.....	General.....	25	.....	400	.....	3,251	35.6	8.1	12,695	12,213	3.76
Kenora.....		208	8.7	3,177	13.3	34,678	45.7	10.9	106,212	96,721	2.79
Kenora.....	General.....	67	.....	952	.....	11,159	45.6	11.7	35,675	32,156	2.88
Kenora.....	St. Joseph's.....	68	.....	928	.....	12,191	49.1	13.1	35,569	32,946	2.70
Sioux Lookout.....	General.....	28	.....	566	.....	4,769	46.7	8.4	17,529	14,189	2.98
Dryden.....	Red Cross.....	37	.....	689	.....	6,280	46.5	9.1	15,719	11,970	1.91
Quibell.....	Red Cross.....	3	.....	11	.....	93	8.5	8.5	524	2,653	3.99
Reddit.....	Red Cross.....	5	.....	31	.....	186	10.2	6.0	1,196	2,807	2.11
Kent.....		263	3.9	5,724	8.7	55,861	58.1	9.8	206,213	150,800	2.70
Chatham.....	General.....	130	.....	3,113	.....	28,543	60.2	9.2	101,598	75,552	2.65
Chatham.....	St. Joseph's.....	133	.....	2,611	.....	27,318	56.3	10.5	104,615	75,248	2.75
Lambton.....		163	2.8	3,442	6.0	39,041	65.6	11.3	132,999	119,366	3.06
Petrolia.....	Charlotte Eleanor Englehart.....	35	.....	732	.....	8,498	66.5	11.6	27,829	26,931	3.17
Sarnia.....	General.....	128	.....	2,710	.....	30,543	65.4	11.3	105,170	92,435	3.03
Lanark.....		186	5.6	3,367	10.2	43,902	64.7	13.0	148,416	119,498	2.72
Almonte.....	Rosamond Memorial.....	26	.....	539	.....	6,527	68.8	12.1	20,278	15,526	2.38
Perth.....	Great War Memorial.....	58	.....	1,241	.....	13,748	64.9	11.1	45,555	36,376	2.65
Smiths Falls.....	Public.....	55	.....	1,120	.....	14,740	73.4	13.2	50,430	39,395	2.67
Smiths Falls.....	St. Francis.....	47	.....	467	.....	8,887	51.8	19.0	32,153	28,201	3.17
Leeds.....		179	5.0	3,620	10.1	44,270	67.8	12.2	188,728	144,413	3.26
Brockville.....	General.....	106	.....	2,237	.....	27,747	71.7	12.4	118,728	84,404	3.04
Brockville.....	St. Vincent de Paul.....	73	.....	1,383	.....	16,523	62.0	11.9	69,914	60,009	3.63
Lennox.....	None.....										
Lincoln.....		190	2.9	4,298	6.6	44,220	63.8	10.3	168,442	150,465	3.40
Niagara-on-the-Lake.....	Cottage.....	20	.....	197	.....	3,150	43.1	16.0	8,779	8,071	2.56
St. Catharines.....	General.....	170	.....	4,101	.....	41,070	66.2	10.0	159,663	142,394	3.44
Manitoulin.....		22	1.9	315	2.8	3,001	37.3	9.5	7,268	7,977	2.66
Mindemoya.....	Red Cross.....	22	.....	315	.....	3,001	37.3	9.5	7,268	7,977	2.66
Middlesex.....		828	6.6	14,400	11.4	206,969	68.4	14.3	854,446	670,594	3.24
London.....	St. Josephs.....	325	.....	5,535	.....	70,566	59.5	12.7	302,284	211,620	3.00
London.....	Victoria.....	453	.....	8,219	.....	126,535	76.5	15.4	526,485	436,335	3.40
Strathroy.....	General.....	50	.....	646	.....	9,868	54.1	15.3	25,677	22,639	2.29

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
(Continued)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
ONTARIO—Continued											
Muskoka.....		33	1.5	805	3.6	7,892	65.5	9.8	22,528	20,818	2.64
Bracebridge.....	Red Cross.....	33	.....	805	.....	7,892	65.5	9.8	22,528	20,818	2.64
Nipissing.....		265	6.1	4,001	9.3	53,501	55.3	13.4	174,777	131,077	2.45
Mattawa.....	General.....	44	.....	419	.....	9,509	59.2	22.7	27,483	24,686	2.60
North Bay.....	Queen Victoria.....	50	.....	1,146	.....	11,865	65.0	10.4	47,951	40,525	3.42
North Bay.....	St. Josephs.....	125	.....	1,752	.....	22,177	48.6	12.7	74,645	42,239	1.90
Sturgeon Falls.....	St. Jean de Brebeuf.....	40	.....	658	.....	9,751	66.8	14.8	24,084	20,938	2.15
Whitney.....	Red Cross.....	6	.....	26	.....	199	9.0	7.6	614	2,689	2.84
Norfolk.....		76	2.1	1,716	4.8	18,469	66.6	10.7	54,539	59,018	3.20
Simcoe.....	Norfolk General.....	76	.....	1,716	.....	18,469	66.6	10.7	54,539	59,018	3.20
Northumberland.....		58	1.9	877	2.8	9,485	44.8	10.8	30,736	27,330	2.88
Cobourg.....	General.....	58	.....	877	.....	9,485	44.8	10.8	30,736	27,330	2.88
Ontario.....		111	1.7	3,475	5.2	28,100	69.4	8.1	117,357	93,997	3.35
Oshawa.....	General.....	111	.....	3,475	.....	28,100	69.4	8.1	117,357	93,997	3.35
Oxford.....		206	1.4	3,074	6.0	44,238	58.8	14.3	142,023	132,151	2.99
Ingersoll.....	Alexandra.....	42	.....	695	.....	8,885	58.0	12.8	24,812	19,920	2.24
Tillsonburg.....	Soldier's Memorial.....	53	.....	1,188	.....	11,701	60.5	9.8	39,808	33,942	2.90
Woodstock.....	General.....	111	.....	1,993	.....	23,652	58.4	11.9	77,403	78,289	3.31
Parry Sound.....		105	3.4	2,251	7.3	26,538	69.2	11.8	71,340	48,041	1.81
Parry Sound.....	General.....	35	.....	864	.....	11,496	90.0	13.3	27,818	18,018	1.57
Parry Sound.....	St. Joseph's.....	64	.....	1,310	.....	14,313	61.3	10.9	40,674	26,746	1.87
Port Loring.....	Red Cross.....	6	.....	77	.....	729	33.3	9.5	2,848	3,277	3.51
Peel.....		56	1.7	1,218	3.8	11,073	54.1	9.0	37,219	33,151	2.99
Brampton.....	Peel Memorial.....	56	.....	1,218	.....	11,073	54.1	9.0	37,219	33,151	2.99
Perth.....		165	3.3	2,985	6.0	32,251	53.5	10.8	110,313	102,260	3.17
Listowel.....	Memorial.....	26	.....	498	.....	4,323	45.6	8.7	15,719	13,135	3.04
Stratford.....	General.....	139	.....	2,487	.....	27,928	55.0	11.2	94,594	88,945	3.18
Peterborough.....		194	4.1	4,381	9.3	52,791	74.5	12.0	233,191	153,497	2.90
Peterborough.....	Nicholls.....	98	.....	2,228	.....	30,086	84.1	13.5	108,980	96,992	3.22
Peterborough.....	St. Joseph's.....	88	.....	2,074	.....	22,145	68.9	10.7	122,703	53,427	2.41
Apsley.....	Red Cross.....	8	.....	79	.....	560	19.2	7.1	1,508	3,078	2.64
Prescott.....		26	1.0	686	2.7	5,880	61.9	8.5	16,296	17,067	2.90
Hawkesbury.....	Notre-Dame.....	26	.....	686	.....	5,880	61.9	8.5	16,296	17,067	2.90
Prince Edward.....		52	3.1	977	5.8	11,204	59.0	11.5	30,315	22,153	1.98
Pieton.....	P. E. County.....	52	.....	977	.....	11,204	59.0	11.5	30,315	22,153	1.98

TABLE 2 -- PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
(Continued)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
ONTARIO—Continued											
Rainy River.....		32	1.6	585	7.6	5,822	49.8	9.9	15,062	19,520	3.35
Atikokan.....	Red Cross.....	4	14	58	4.0	4.1	838	2,919	7.55		
Rainy River.....	Red Cross.....	16	305	3,274	56.1	7.3	8,030	8,118	2.48		
Emo.....	Red Cross.....	12	266	2,490	56.8	9.4	6,194	8,483	3.41		
Renfrew.....		237	4.4	4,419	8.1	50,810	58.7	11.5	161,242	139,955	2.75
Pembroke.....	Cottage.....	62	1,441	15,584	68.9	10.8	53,403	46,026	2.95		
Pembroke.....	General.....	110	1,891	21,769	54.2	11.5	72,663	64,554	2.97		
Renfrew.....	Victoria.....	65	1,087	13,457	56.7	12.4	35,176	29,375	2.18		
Russell.....	None.....										
Simcoe.....		383	4.4	7,276	8.4	88,138	63.0	12.1	250,642	208,904	2.37
Alliston.....	Stevenson Memorial.....	40	616	7,842	53.7	12.7	38,056	25,559	3.26		
Barrie.....	Royal Victoria.....	79	1,795	20,652	71.6	11.5	53,361	53,361	2.17		
Collingwood.....	General & Marine.....	60	1,209	17,787	81.2	14.7	50,826	45,038	2.53		
Midland.....	St. Andrew's.....	50	1,078	12,544	68.7	11.6	30,360	23,768	1.89		
Orillia.....	Soldier's Memorial.....	85	1,938	22,384	72.1	11.5	63,145	57,070	2.55		
Penetanguishene.....	General.....	22	463	3,186	39.7	6.9	10,622	8,694	2.73		
Collingwood.....	Blue Mt. Convalescent.....	47	176	3,743	21.8	21.3	4,272	4,053	1.08		
Stormont.....		258	6.4	5,340	13.1	62,154	66.0	11.6	182,728	155,374	2.50
Cornwall.....	General.....	108	1,929	22,949	58.2	11.9	82,636	73,718	3.21		
Cornwall.....	Hotel-Dieu.....	150	3,411	39,205	71.6	11.5	100,092	81,656	2.08		
Sudbury.....		303	3.8	7,117	8.9	69,439	62.8	9.8	258,434	195,383	2.81
Chapleau.....	Lady Minto.....	40	476	7,194	49.3	15.1	20,293	17,491	2.43		
Sudbury.....	St. Joseph's.....	239	6,274	57,593	66.0	9.2	224,409	162,022	2.81		
Espanola.....	Red Cross.....	20	344	4,573	62.6	13.3	13,445	13,018	2.85		
Foleyet.....	Red Cross Car.....	4	23	79	5.4	3.4	287	2,852	2.89		
Thunder Bay.....		578	6.8	12,125	14.3	146,094	69.2	12.0	509,151	373,218	2.55
Fort William.....	McKellar General.....	226	4,980	62,224	75.4	12.5	219,553	150,643	2.42		
Port Arthur.....	General.....	134	2,861	33,956	69.4	11.9	98,436	94,971	2.80		
Port Arthur.....	St. Josephs.....	182	4,045	47,935	72.2	11.8	184,444	115,437	2.41		
Fort William.....	Isolation.....	14							No Report		
Kakabeka Falls.....	Red Cross.....	6	74	586	26.8	7.9	1,815	3,521	2.71		
Nakina.....	Red Cross.....	9	58	459	14.0	7.9	1,791	3,709	4.28		
Jellicoe.....	Red Cross.....	7	107	934	36.6	8.7	3,112	4,937	5.29		
Timiskaming.....		249	5.0	5,251	10.5	50,477	55.5	9.6	192,150	170,160	3.37
Cobalt.....	Municipal.....	25	299	2,400	26.3	8.0	7,494	7,484	3.12		
Haileybury.....	Misericordia.....	35	685	7,581	59.3	11.1	33,449	17,095	2.25		
Englehart.....	Red Cross.....	19	405	3,647	52.6	9.0	9,744	9,178	2.52		
Kirkland Lake.....	Red Cross.....	146	3,398	32,222	60.5	9.5	125,736	120,667	3.74		
New Liskeard.....	Red Cross.....	24	464	4,627	52.8	10.0	15,730	15,745	3.40		
Victoria.....		85	3.3	1,615	6.2	18,044	58.1	11.1	58,020	47,022	2.61
Lindsay.....	Ross Memorial.....	74	1,615	18,044	58.1	11.1	58,020	47,022	2.61		
Lindsay.....	Isolation.....	11						No Report			
Waterloo.....		356	3.6	7,206	7.3	80,773	62.1	11.2	361,662	279,115	3.46
Galt.....	General.....	91	1,922	21,053	63.4	10.9	91,901	75,891	3.60		
Kitchener.....	Kitchener-Waterloo.....	135	2,869	30,693	62.3	10.7	147,716	119,282	3.89		
Kitchener.....	St. Mary's.....	130	2,415	29,027	61.2	12.0	122,045	83,942	2.89		

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
(Continued)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
ONTARIO—Continued											
Welland		271	2.9	5,912	6.3	57,740	58.4	12.0	234,017	189,968	3.29
Fort Erie	Douglas Memorial	48	.....	899	.....	8,943	51.0	9.9	40,196	35,694	3.99
Niagara Falls	General	138	.....	2,818	.....	27,703	55.0	9.8	112,554	85,116	3.07
Welland	Welland County General	85	.....	2,195	.....	21,094	68.0	9.6	81,267	69,158	3.28
Wellington		310	5.2	5,354	8.0	66,105	58.4	12.3	235,467	206,195	3.12
Fergus	Groves Memorial	37	.....	512	.....	5,214	38.6	10.2	18,872	18,997	3.64
Guelph	General	120	.....	2,222	.....	25,835	59.0	11.6	106,973	91,222	3.53
Guelph	St. Josephs	113	.....	2,038	.....	28,295	68.6	13.9	90,084	78,148	2.76
Mount Forest	Louise Marshall	21	.....	209	.....	2,804	36.6	13.4	7,812	7,248	2.58
Palmerston	General	19	.....	373	.....	3,957	57.0	10.6	11,726	10,580	2.67
Wentworth		1,012	4.9	20,420	9.9	245,663	66.5	12.0	861,635	813,164	3.31
Hamilton	General	827	.....	15,756	.....	190,850	63.2	12.1	697,736	672,485	3.24
Hamilton	St. Joseph's	185	.....	4,664	.....	54,813	81.2	11.8	163,899	140,679	2.57
York		4,797	5.1	89,141	9.5	1,282,156	73.2	14.3	4,962,593	4,713,622	3.75
Newmarket	York County	40	.....	1,155	.....	11,639	79.7	10.1	35,018	31,783	2.73
Toronto	Lockwood Clinic	40	.....	885	.....	7,914	54.2	8.9	39,715	35,732	4.52
Toronto	Mount Sinai	102	.....	3,275	.....	33,148	89.0	10.1	130,174	115,409	3.48
Toronto	St. Joseph's	361	.....	7,946	.....	101,385	76.9	12.8	355,824	297,125	3.93
Toronto	St. Michael's	678	.....	13,157	.....	195,776	79.1	14.9	739,681	639,349	3.27
Toronto	Toronto East General	182	.....	4,250	.....	56,437	85.0	13.3	211,643	191,779	3.40
Toronto	Toronto General	1,319	.....	22,512	.....	372,812	77.4	16.6	1,607,039	1,563,373	4.19
Toronto	Toronto Western	566	.....	13,358	.....	175,807	85.1	13.2	746,071	742,716	4.22
Toronto	Wellesley	115	.....	2,958	.....	33,107	78.9	11.2	176,998	156,174	4.72
Toronto	S. A. Grace	114	.....	2,444	.....	23,056	55.4	9.4	56,207	54,912	2.38
Toronto	Women's College	183	.....	4,630	.....	50,170	74.3	10.8	173,460	166,382	3.32
Toronto	Hosp. for Sick Children	432	.....	9,351	.....	133,771	84.8	14.3	549,451	580,045	4.33
Toronto	Riverdale Isolation	375	.....	1,631	.....	25,636	18.7	15.7	No Report		
Toronto	Civitan Children's Camp	29	.....	46	.....	952	89.9	20.7	873	822	.86
Toronto	Hillcrest Convalescent	43	.....	281	.....	9,276	59.1	33.0	18,111	18,082	1.95
Toronto	I.O.D.E. Convalescent	132	.....	471	.....	26,956	55.9	57.2	61,816	56,304	2.09
Newtonbrook	St. John's Convalescent	64	.....	623	.....	20,501	87.8	32.9	51,060	49,696	2.42
Toronto	Mothercraft Centre	20	.....	168	.....	3,813	52.2	22.7	9,452	13,939	3.66
District of Patricia	None										
MANITOBA		4,026	5.5	81,042	11.2	920,539	62.6	11.3	2,939,670	3,048,964	3.37
Division 1		83	2.9	1,664	6.0	14,121	46.6	8.4	29,220	28,667	2.03
Steinbach	Bethesda	48	.....	987	.....	8,656	49.4	8.8	12,517	11,889	1.13
Vita	General	35	.....	677	.....	5,465	42.8	8.1	16,703	16,778	3.07
Division 2		94	2.2	1,831	4.4	16,960	49.4	9.2	41,971	37,182	2.19
Altona	Bethania	27	.....	426	.....	3,690	37.4	8.7	8,384	8,107	2.20
Morden	Freemason's	39	.....	671	.....	7,414	52.1	11.0	24,482	22,031	2.97
Winkler	Bethel	28	.....	734	.....	5,856	57.3	8.0	9,105	7,044	1.20
Division 3	None										
Division 4		22	1.4	755	4.8	5,514	68.7	7.3	15,336	15,884	2.88
Deloraine	Memorial	22	.....	755	.....	5,514	68.7	7.3	15,336	15,884	2.88
Division 5		28	0.5	514	1.6	5,791	56.6	11.2	15,299	23,482	4.05
Pine Falls	Pine Falls	28	.....	514	.....	5,791	56.6	11.2	15,299	23,482	4.05

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
(Continued)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
MANITOBA—Continued											
Division 6.....		2,711	9.3	57,611	19.8	694,070	70.1	12.0	2,398,307	2,497,225	3.60
Corman.....	General.....	53	.....	920	.....	9,330	48.2	10.1	25,625	24,080	2.58
Portage la Prairie.....	General.....	90	.....	1,809	.....	18,247	55.5	10.1	44,010	48,295	2.65
St. Boniface.....	St. Boniface.....	525	.....	14,070	.....	158,600	82.8	11.3	428,226	486,081	3.06
Winnipeg.....	Concordia.....	60	.....	951	.....	8,612	39.3	9.1	22,344	20,785	2.41
Winnipeg.....	Grace.....	271	.....	5,100	.....	71,170	72.0	14.0	150,581	156,252	2.20
Winnipeg.....	Misericordia.....	299	.....	7,469	.....	72,676	66.6	9.7	240,685	251,184	3.46
Winnipeg.....	St. Joseph's.....	130	.....	3,254	.....	28,521	60.1	8.8	78,994	87,963	3.08
Winnipeg.....	Victoria.....	130	.....	3,718	.....	33,123	69.8	8.9	89,198	76,988	2.32
Winnipeg.....	General.....	631	.....	15,047	.....	204,745	88.9	13.6	727,943	745,789	3.64
Winnipeg.....	Children's.....	135	.....	2,357	.....	34,684	69.2	14.5	145,964	145,292	4.26
Winnipeg.....	Municipal.....	230	.....	1,851	.....	21,234	25.3	11.5	386,842	386,842	1.82
St. Boniface.....	St. Roche.....	107	.....	874	.....	21,635	55.4	24.8	45,693	54,904	2.54
Winnipeg.....	Convalescent.....	50	.....	191	.....	12,093	66.3	63.3	12,202	12,770	1.06
Division 7.....		222	6.1	2,953	8.1	45,626	56.3	15.4	144,150	133,426	2.92
Brandon.....	General.....	222	.....	2,953	.....	45,626	56.3	15.4	144,150	133,426	2.92
Division 8.....		68	3.8	1,256	7.1	10,006	40.3	7.9	17,263	16,823	3.03
Souris.....	Souris & Glenwood Memorial.....	41	.....	797	.....	5,561	37.2	7.0	17,263	16,823	3.03
Virden.....	Virden.....	27	.....	459	.....	4,445	45.1	9.7	No Report	.....	.....
Division 9.....		117	2.4	2,466	5.2	17,784	41.6	7.2	39,696	43,390	2.44
Selkirk.....	General.....	72	.....	2,007	.....	13,642	51.9	6.8	29,099	30,935	2.27
Teulon.....	Hunter.....	45	.....	459	.....	4,142	25.2	9.0	10,597	12,455	3.01
Division 10.....		66	3.4	1,160	5.9	10,529	43.7	9.0	22,088	23,343	2.22
Gladstone.....	General.....	26	.....	408	.....	3,556	37.5	8.7	4,730	4,725	1.33
Neepawa.....	General.....	40	.....	752	.....	6,973	37.8	9.3	17,358	18,618	2.67
Division 11.....		72	2.7	1,353	5.1	12,669	48.2	9.3	24,534	25,293	2.00
Birtle.....	St. Mary's.....	18	.....	368	.....	3,479	53.0	9.4	5,158	5,078	1.46
Ham iota.....	General.....	15	.....	229	.....	2,344	42.8	10.2	6,080	6,134	2.62
Minnedosa.....	Lady Minto.....	18	.....	408	.....	3,664	55.8	9.0	5,732	6,104	1.67
Shoal Lake.....	Municipal.....	21	.....	348	.....	3,182	41.5	9.1	7,564	7,977	2.51
Division 12.....		73	2.8	992	3.8	8,320	31.2	8.3	18,722	19,222	2.31
Eriksdale.....	E. M. Crowe Memorial.....	25	.....	444	.....	3,787	41.5	8.5	9,588	10,133	2.76
Gimli.....	Johnson Memorial.....	48	.....	548	.....	4,533	25.9	8.2	9,134	9,089	2.00
Division 13.....		205	7.9	4,113	15.9	36,539	48.8	8.8	90,910	93,894	2.57
Dauphin.....	General.....	110	.....	2,523	.....	22,081	55.0	8.7	50,580	49,617	2.25
Ethelbert.....	General.....	24	.....	213	.....	1,988	22.7	9.3	6,318	9,882	4.97
Ste. Rose du Lac.....	St. Rose.....	45	.....	1,141	.....	9,038	55.2	7.9	26,692	28,276	3.13
Winnipegosis.....	Crerar.....	26	.....	236	.....	3,432	36.2	14.5	7,320	6,119	1.78
Division 14.....		74	2.7	1,436	5.3	11,333	41.9	7.8	.....	.....	.....
Grandview.....	General.....	18	.....	379	.....	2,108	32.1	5.6	No Report	.....	.....
Russell.....	Sacred Heart.....	56	.....	1,057	.....	9,225	45.1	8.7	No Report	.....	.....
Division 15.....		31	2.5	449	3.7	4,152	36.7	9.2	9,713	9,656	2.33
Swan River.....	Swan River.....	31	.....	449	.....	4,152	36.7	9.2	9,713	9,656	2.33

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
(Continued)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
MANITOBA—Continued											
Division 16.....		160	4.2	2,489	6.5	27,125	46.4	10.8	72,461	81,477	3.00
Flin Flon.....	General.....	30	.....	1,228	.....	8,605	47.1	7.0	21,450	28,767	3.34
The Pas.....	St. Anthony's.....	110	.....	1,261	.....	18,520	46.1	14.7	51,011	52,710	2.85
SASKATCHEWAN.											
Division 1.....		4,315	4.8	86,008	9.7	893,167	56.7	10.3	2,759,828	2,853,535	3.29
Division 1.....		124	3.6	2,487	7.3	23,683	52.3	9.5	86,767	64,652	2.73
Arcola.....	Brock Union.....	16	.....	316	.....	3,084	52.8	9.8	11,230	9,917	3.22
Bienfait.....	Community.....	15	.....	406	.....	2,571	47.0	6.3	7,679	7,646	2.97
Estevan.....	St. Joseph's.....	54	.....	1,259	.....	12,872	65.3	10.2	53,740	34,006	2.64
Lampman.....	Union.....	19	.....	250	.....	2,996	43.2	12.0	6,778	6,720	2.24
Oxbow.....	Union.....	20	.....	256	.....	2,160	29.6	8.4	7,338	6,361	2.94
Division 2.....		83	2.3	1,447	4.0	14,128	46.6	9.7	40,478	42,917	3.04
Bengough.....	Municipal.....	17	.....	216	.....	1,932	31.1	8.9	3,319	3,240	1.68
Weyburn.....	General.....	66	.....	1,231	.....	12,196	50.6	9.9	37,158	39,676	3.25
Division 3.....		206	5.3	2,436	6.1	21,618	28.7	8.8	68,610	87,102	4.39
Assiniboia.....	Union.....	26	.....	687	.....	5,146	74.9	7.5	20,037	16,581	3.22
Gravelbourg.....	St. Joseph's.....	95	.....	724	.....	7,206	20.8	9.9	25,774	42,124	5.85
Kincaid.....	Community.....	18	.....	363	.....	2,717	41.4	7.5	5,746	5,818	2.14
Ponteix.....	Gabriel.....	37	.....	322	.....	2,933	21.7	9.1	12,922	14,682	5.00
Vanguard.....	Vanguard.....	19	.....	164	.....	1,831	26.4	11.2	4,129	7,895	4.31
Rockglen.....	Red Cross.....	11	.....	176	.....	1,785	44.5	10.1	No Report	.....	.....
Division 4.....		105	4.7	2,115	9.6	18,781	49.0	8.9	53,808	55,878	3.21
Frontier.....	Community.....	19	.....	113	.....	1,005	14.5	8.9	3,735	3,922	3.90
Maple Creek.....	General.....	42	.....	872	.....	7,896	51.5	9.1	26,057	25,596	3.24
Shaunavon.....	Union.....	36	.....	943	.....	8,499	64.7	9.0	24,014	26,359	3.10
Bracken.....	Red Cross.....	18	.....	187	.....	1,381	21.0	7.4	No Report	.....	.....
Division 5.....		90	1.8	1,768	3.4	14,731	44.8	8.3	40,717	35,644	2.42
Broadview.....	St. Michael's.....	25	.....	382	.....	3,014	33.0	7.9	8,479	7,697	2.55
Melville.....	St. Peter's.....	29	.....	600	.....	4,569	43.1	7.6	9,745	8,460	1.85
Moosomin.....	General.....	24	.....	477	.....	4,477	51.1	9.4	14,509	11,773	2.63
Whitewood.....	Community.....	12	.....	309	.....	2,671	61.0	8.9	7,983	7,714	2.90
Division 6.....		785	7.3	15,323	14.2	187,393	65.4	12.2	635,285	677,529	3.72
Indian Head.....	Union.....	31	.....	683	.....	5,907	52.2	8.6	18,894	17,991	3.05
Regina.....	General.....	300	.....	7,856	.....	92,370	84.4	11.8	348,575	392,890	4.25
Regina.....	Grey Nun's.....	413	.....	6,518	.....	82,402	54.7	12.6	265,056	263,849	3.20
Rouleau.....	Community.....	13	.....	143	.....	1,016	21.4	7.1	2,758	2,796	2.75
Regina.....	Jr. Red Cross.....	28	.....	123	.....	5,698	.....	.....	No Report	.....	.....
Division 7.....		408	7.6	5,902	11.0	80,888	54.3	13.7	215,593	221,455	2.74
Central Butte.....	Enfield Victorian.....	16	.....	245	.....	1,727	29.6	7.0	3,656	4,011	2.32
Herbert.....	Community.....	22	.....	262	.....	2,578	32.1	9.8	6,380	6,644	2.58
Moose Jaw.....	General.....	200	.....	3,553	.....	51,480	70.5	14.6	134,498	128,863	2.50
Moose Jaw.....	Providence.....	150	.....	1,796	.....	24,632	45.0	13.7	69,851	80,921	3.29
Tuxford.....	Community.....	20	.....	66	.....	471	64.5	7.1	1,207	1,013	2.15
Division 8.....		217	5.2	4,805	11.2	43,376	54.7	9.0	133,295	127,676	3.04
Cabri.....	Union.....	28	.....	691	.....	6,862	67.1	9.9	22,988	20,000	2.91
Eatonia.....	Union.....	22	.....	342	.....	3,140	39.1	9.2	8,695	10,853	3.46
Elrose.....	Community.....	15	.....	178	.....	1,736	31.7	9.8	4,629	4,819	2.78

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
(Continued)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
SASKATCHEWAN											
—Continued.											
Division 8—Continued.											
Eston.....	Union.....	37.....	946.....	8,000.....	59.2.....	8.5.....	22,047.....	22,085.....	2.76.....	
Gull Lake.....	Union.....	24.....	572.....	5,004.....	57.1.....	8.7.....	14,910.....	15,691.....	3.14.....		
Leader.....	Leader Town.....	21.....	581.....	4,939.....	64.4.....	8.5.....	17,634.....	12,228.....	2.48.....		
Swift Current.....	General.....	55.....	1,351.....	12,344.....	61.5.....	9.1.....	42,388.....	41,998.....	3.40.....		
Tuberose.....	Red Cross.....	15.....	144.....	1,351.....	24.7.....	9.4.....	No Report.....	
Division 9.....	195.....	3.1.....	5,450.....	8.7.....	42,211.....	59.3.....	7.7.....	131,389.....	119,742.....	2.84.....
Canora.....	Hugh Waddell.....	59.....	1,668.....	12,172.....	56.5.....	7.3.....	33,604.....	30,045.....	2.47.....		
Kamsack.....	King Edward.....	30.....	873.....	5,040.....	46.0.....	5.8.....	17,283.....	11,276.....	2.24.....		
Yorkton.....	Queen Victoria.....	106.....	2,909.....	24,999.....	64.6.....	8.6.....	80,501.....	78,420.....	3.14.....		
Division 10.....	87.....	2.0.....	2,050.....	4.7.....	19,502.....	61.4.....	9.5.....	43,335.....	42,559.....	2.18.....
Foam Lake.....	Foam Lake.....	22.....	399.....	2,875.....	35.8.....	7.2.....	8,633.....	8,164.....	2.84.....		
Lestock.....	St. Joseph's.....	20.....	288.....	2,082.....	28.5.....	7.2.....	8,619.....	7,162.....	3.44.....		
Wadena.....	Union.....	45.....	1,363.....	14,545.....	88.6.....	10.7.....	26,081.....	27,232.....	1.87.....		
Division 11.....	588.....	7.4.....	12,689.....	16.0.....	140,501.....	65.4.....	11.0.....	526,433.....	610,142.....	4.45.....
Davidson.....	Union.....	21.....	333.....	1,952.....	25.5.....	5.9.....	6,260.....	7,942.....	4.07.....		
Nokomis.....	Community.....	16.....	212.....	1,593.....	27.2.....	7.5.....	4,756.....	4,138.....	2.60.....		
Saskatoon.....	Saskatoon City.....	311.....	6,986.....	86,526.....	76.2.....	12.4.....	362,951.....	363,595.....	4.20.....		
Saskatoon.....	St. Paul's.....	224.....	4,917.....	47,125.....	57.6.....	9.6.....	152,465.....	234,465.....	4.98.....		
Watrous.....	Manitou.....	16.....	341.....	3,305.....	56.6.....	9.7.....	No Report.....	
Division 12.....	124.....	3.6.....	2,193.....	6.3.....	23,058.....	50.9.....	10.5.....	78,903.....	65,832.....	2.86.....
Biggar.....	St. Margaret's.....	50.....	603.....	5,894.....	32.3.....	9.8.....	17,601.....	16,505.....	2.80.....		
Milden.....	Community.....	14.....	371.....	2,916.....	57.1.....	7.9.....	9,681.....	7,706.....	2.64.....		
Rosetown.....	Union.....	60.....	1,219.....	14,248.....	65.1.....	11.7.....	51,620.....	41,620.....	2.92.....		
Division 13.....	244.....	6.7.....	4,531.....	12.5.....	42,897.....	48.1.....	9.4.....	130,619.....	129,984.....	3.03.....
Dodsland.....	Community.....	31.....	319.....	3,656.....	32.3.....	11.5.....	11,989.....	7,567.....	3.27.....		
Kerrobert.....	Union.....	41.....	532.....	5,531.....	37.0.....	10.4.....	11,930.....	17,394.....	3.14.....		
Kindersley.....	Union.....	40.....	1,057.....	9,478.....	64.9.....	9.0.....	35,494.....	34,617.....	3.65.....		
Macklin.....	St. Joseph.....	50.....	1,089.....	9,820.....	53.8.....	9.2.....	32,919.....	31,914.....	3.25.....		
Scott.....	Municipal.....	24.....	279.....	2,740.....	31.3.....	9.8.....	9,042.....	9,323.....	3.40.....		
Unity.....	Union.....	38.....	755.....	7,600.....	54.8.....	10.1.....	16,568.....	17,080.....	2.25.....		
Wilkie.....	Union.....	20.....	500.....	4,072.....	55.8.....	8.1.....	12,676.....	12,087.....	2.97.....		
Division 14.....	251.....	3.8.....	5,789.....	8.9.....	47,857.....	52.2.....	8.2.....	115,769.....	110,179.....	2.54.....
Carrot River.....	Mitchell Memorial.....	11.....	157.....	1,133.....	28.2.....	7.2.....	3,589.....	3,704.....	3.27.....		
Kelvington.....	Union.....	15.....	439.....	3,935.....	71.9.....	9.0.....	14,302.....	12,753.....	3.24.....		
Melfort.....	Lady Minto.....	54.....	1,095.....	8,914.....	45.2.....	8.1.....	23,432.....	26,337.....	2.95.....		
Nipawin.....	Lady Grey.....	29.....	776.....	6,450.....	60.9.....	8.3.....	12,461.....	10,456.....	1.62.....		
Rose Valley.....	Union.....	23.....	790.....	5,525.....	65.8.....	7.0.....	12,971.....	10,566.....	1.91.....		
Tisdale.....	Ste. Therese.....	78.....	2,009.....	17,348.....	60.9.....	8.6.....	49,012.....	46,360.....	2.67.....		
Carragana.....	Red Cross.....	14.....	170.....	1,506.....	29.5.....	8.9.....	No Report.....	
Endeavor.....	Red Cross.....	10.....	66.....	577.....	15.8.....	8.7.....	No Report.....	
Hudson Bay Jct.....	Red Cross.....	17.....	287.....	2,469.....	39.8.....	8.6.....	No Report.....	
Division 15.....	466.....	5.3.....	9,618.....	10.9.....	94,108.....	55.3.....	9.7.....	288,164.....	279,356.....	2.99.....
Birch Hills.....	General.....	18.....	303.....	3,397.....	51.7.....	11.2.....	7,726.....	8,041.....	2.37.....		
Cudworth.....	St. Michael's.....	28.....	641.....	4,817.....	47.1.....	7.5.....	15,822.....	14,368.....	2.98.....		
Humboldt.....	St. Elizabeth's.....	88.....	2,081.....	16,960.....	52.8.....	8.1.....	71,733.....	65,180.....	3.84.....		
Kinistino.....	Kinistino District.....	15.....	302.....	2,313.....	42.2.....	7.7.....	8,057.....	5,420.....	2.34.....		
Prince Albert.....	Holy Family.....	155.....	2,937.....	32,888.....	58.0.....	11.2.....	106,435.....	105,065.....	3.20.....		
Prince Albert.....	Victoria.....	89.....	2,069.....	23,797.....	73.3.....	11.5.....	59,964.....	61,352.....	2.58.....		

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
(Continued)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
SASKATCHEWAN											
—Continued.											
Division 15—Continued.											
Rosthern	Community	20	412	2,385	32.7	5.8	7,508	No Report	5,756	2.41	
Smeaton	Smeaton	13	214	1,857	39.1	8.7	3,930	No Report	5,100	2.75	
Wakaw	Anna Turnbull	29	544	4,802	45.4	8.8	6,983	No Report	9,069	1.89	
Paddockwood	Red Cross	11	115	942	23.5	8.2	.....	.....	.....	.....
Division 16		139	2.6	2,828	5.3	26,494	52.2	9.3	72,895	79,584	3.00
Hafford	Hafford	36	381	3,246	24.7	8.5	15,719	No Report	13,866	4.27	
North Battleford	Notre Dame	83	1,980	19,220	63.4	9.7	47,619	No Report	57,381	2.99	
Rabbit Lake	Rose Gill	20	467	4,028	55.2	8.6	9,557	No Report	8,336	2.07	
Division 17		160	4.8	4,025	12.2	46,491	79.6	11.5	88,688	90,768	2.27
Edam	Lady Minto	20	286	3,753	51.4	13.1	8,524	No Report	9,403	2.50	
Lashburn	District Union	29	611	7,575	71.6	12.4	17,997	No Report	19,822	2.62	
Lloydminster	United Municipal	60	1,621	19,926	91.0	12.3	44,185	No Report	45,306	2.27	
Meadow Lake	Meadow Lake	23	816	8,814	105.0	10.8	17,980	No Report	16,235	1.84	
Loon Lake	Red Cross	28	691	6,423	62.8	9.3	.....	.....	.....	.....
Division 18		43	4.5	552	5.8	5,450	34.7	9.8	9,076	12,536	3.30
Ille a la Crosse	St. Joseph's	30	370	3,805	34.7	10.3	9,076	No Report	12,536	3.30	
Pierceland	Red Cross	13	182	1,645	34.7	9.0	.....	.....	.....	.....
ALBERTA											
Division 1		5,180	6.6	96,755	12.2	1,053,578	55.7	10.9	4,024,444	3,566,510	3.39
Medicine Hat	Medicine Hat General	142	2,698	9.2	27,097	47.6	10.0	.....	.....	.....	.....
Medicine Hat	Medicine Hat Isolation	14	7	2,691	26,953	52.0	10.0	.....	.....	.....	.....
Division 2		400	6.9	10,143	17.5	92,478	63.3	9.1	.....	.....	.....
Cardston	Cardston Municipal	39	1,262	9,870	69.3	7.8	.....	.....	.....	.....	.....
Claresholm	Claresholm	27	690	7,108	72.1	10.3	.....	.....	.....	.....	.....
Coleman	Miners' Union	13	322	2,970	62.6	9.2	.....	.....	.....	.....	.....
Lethbridge	Galt	113	3,429	34,556	83.8	10.1	.....	.....	.....	.....	.....
Lethbridge	St. Michael's	138	3,471	29,775	59.1	8.6	.....	.....	.....	.....	.....
Lethbridge	Isolation	14	17	252	4.9	14.8	.....	.....	.....	.....	.....
MacLeod	MacLeod General	25	487	3,856	42.3	7.9	.....	.....	.....	.....	.....
Pincher Creek	St. Vincent's	31	465	4,091	36.2	8.8	.....	.....	.....	.....	.....
Division 3		61	3.9	974	6.3	9,496	42.6	9.7	.....	.....	.....
Bassano	Bassano Municipal	36	454	5,569	42.4	12.3	.....	.....	.....	.....	.....
Empress	Empress Cottage	25	520	3,927	43.0	7.6	.....	.....	.....	.....	.....
Division 4		98	3.3	2,177	7.4	19,700	55.0	9.0	.....	.....	.....
Carmangay	Little Bow Municipal	20	421	3,930	53.8	9.3	.....	.....	.....	.....	.....
High River	High River Municipal	49	1,215	11,094	62.0	9.1	.....	.....	.....	.....	.....
Vulcan	Vulcan Municipal	29	541	4,276	44.2	8.6	.....	.....	.....	.....	.....
Division 5		77	4.1	1,105	5.9	11,229	39.9	10.2	.....	.....	.....
Cereal	Esler	17	249	2,201	35.5	8.8	.....	.....	.....	.....	.....
Hanna	Hanna Municipal	60	856	9,028	41.2	10.5	.....	.....	.....	.....	.....

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
(Continued)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
ALBERTA—Continued											
Division 6.....		1,012	7.0	20,507	14.2	252,553	68.3	12.3			
Banff.....	Banff Mineral Springs.....	68.....	424.....	10,127	40.8	23.9					
Canmore.....	Canmore.....	16.....	334.....	2,851	48.8	8.5					
Calgary.....	General.....	230.....	5,712.....	73,465	87.5	12.9					
Calgary.....	Holy Cross.....	325.....	8,367.....	93,406	78.7	11.2					
Calgary.....	S. A. Grace.....	58.....	724.....	8,230	38.9	11.4					
Calgary.....	Jr. Red Cross.....	50.....	99.....	13,416	73.5	135.5					
Calgary.....	Isolation.....	89.....	298.....	7,402	22.8	24.8					
Didsbury.....	Didsbury.....	18.....	382.....	2,885	43.9	7.6					
Drumheller.....	Municipal.....	90.....	2,724.....	27,655	84.2	10.2					
Olds.....	Olds.....	14.....	448.....	3,836	75.1	8.6					
Trochu.....	St. Mary's.....	26.....	405.....	3,506	36.9	8.7					
Wayne.....	Wayne.....	28.....	590.....	5,774	56.5	9.8					
Division 7.....		246	7.4	4,373	13.2	41,205	45.9	9.4			
Castor.....	Our Lady of the Rosary.....	34.....	437.....	3,270	26.3	7.5					
Consort.....	Consort Municipal.....	24.....	438.....	4,837	55.2	11.0					
Coronation.....	Coronation General.....	25.....	342.....	2,795	30.6	8.2					
Galahad.....	St. Joseph's.....	28.....	545.....	4,649	45.5	8.5					
Hardisty.....	St. Anne's.....	23.....	511.....	4,715	56.2	9.2					
Killam.....	Killam General.....	21.....	321.....	2,431	31.7	7.6					
Provost.....	Provost Municipal.....	34.....	558.....	5,882	47.4	10.5					
Viking.....	Viking Municipal.....	30.....	568.....	6,054	55.3	10.7					
Wainwright.....	Wainwright Municipal.....	27.....	653.....	6,572	66.7	10.1					
Division 8.....		340	5.1	7,311	10.9	62,538	50.4	8.5			
Camrose.....	St. Mary's.....	58.....	1,470.....	11,724	55.4	8.0					
Daysland.....	Providence.....	31.....	205.....	1,745	15.4	8.5					
Innisfail.....	Innisfail Municipal.....	47.....	864.....	9,321	54.3	10.8					
Lacombe.....	Lacombe & Dist. Community.....	43.....	1,129.....	7,364	46.9	6.5					
Red Deer.....	Red Deer Municipal.....	67.....	1,100.....	10,330	42.2	9.4					
Stettler.....	Stettler Municipal.....	45.....	1,175.....	11,856	72.2	10.1					
Wetaskiwin.....	Wetaskiwin Community.....	49.....	1,368.....	10,198	57.0	7.5					
Division 9.....		114	3.5	2,200	6.8	18,396	44.2	8.3			
Bentley.....	Bentley Community.....	13.....	426.....	2,793	58.9	6.6					
Eckville.....	Medecine Valley Community.....	13.....	330.....	2,001	42.2	6.1					
Jasper.....	Seton.....	18.....	224.....	1,947	29.6	8.7					
Nordegg.....	Nordegg General.....	14.....	170.....	1,689	33.0	9.9					
Rimbev.....	St-Paul's.....	30.....	539.....	5,019	45.8	9.3					
Rocky Mt. House.....	Rocky Mountain House.....	26.....	511.....	4,947	52.1	9.7					
Division 10.....		359	6.1	8,209	14.0	71,165	54.3	8.7			
Islay.....	Islay Municipal.....	23.....	323.....	3,082	36.7	9.5					
Lamont.....	Lamont Public.....	80.....	2,051.....	18,035	61.8	8.8					
Manville.....	Manville Municipal.....	27.....	454.....	3,584	36.4	7.9					
Marwayne.....	Marwayne.....	10.....	150.....	1,468	20.1	9.8					
Mundare.....	Mundare General.....	27.....	570.....	5,033	49.2	8.8					
Myrnam.....	Myrnam.....	28.....	573.....	3,299	32.3	5.8					
Vegreville.....	Vegreville General.....	90.....	2,471.....	19,280	58.7	7.8					
Vermilion.....	Vermilion.....	36.....	914.....	10,910	83.0	11.9					
Willingdon.....	Willingdon.....	37.....	703.....	6,474	47.9	9.2					
Division 11.....		1,530	10.4	23,157	15.7	318,592	57.0	13.8			
Edmonton.....	General.....	181.....	2,737.....	28,059	42.5	10.3					
Edmonton.....	Misericordia.....	314.....	4,241.....	54,780	47.8	12.9					
Edmonton.....	Royal Alexandra.....	500.....	10,789.....	129,654	71.0	12.0					

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
(Continued)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
ALBERTA—Continued											
Division 11—Continued.											
Edmonton.....	University of Alberta.....	353.....	4,843.....	75,549.....	58.6	15.6					
Edmonton.....	Beulah Rescue Home.....	92.....	324.....	5,782.....	17.2	27.8					
Edmonton.....	St. Joseph's.....	90.....	223.....	24,768.....	75.4	11.1					
Division 12.....		38.....	2.2.....	751.....	4.3	7,405.....	53.4	9.8			
Edson.....	St. John's.....	38.....		751.....		7,405.....	53.4	9.8			
Division 13.....		206.....	6.2.....	4,083.....	12.4	33,937.....	45.1	8.3			
Bonnyville.....	Katherine H. Prettie.....	27.....		273.....		2,642.....	26.9	9.7			
Bonnyville.....	St. Louis.....	40.....		613.....		5,975.....	40.9	9.7			
Cold Lake.....	John Neil.....	32.....		398.....		4,389.....	37.6	11.0			
Elli Point.....	Municipal.....	37.....		1,366.....		10,164.....	75.3	7.4			
St. Paul.....	Ste. Therese.....	51.....		1,035.....		8,168.....	43.9	7.9			
Vilna.....	Our Lady's.....	22.....		398.....		2,599.....	32.4	6.5			
Division 14.....		273.....	4.6.....	3,982.....	8.3	37,687.....	46.3	9.5			
Athabasca.....	Municipal.....	45.....		679.....		6,308.....	38.4	9.3			
Barrhead.....	St. Joseph's.....	38.....		703.....		8,512.....	77.7	12.1			
Lac la Biche.....	St. Catharine's.....	53.....		417.....		6,056.....	31.3	14.5			
Radway.....	St. Joseph's.....	33.....		1,056.....		6,266.....	52.0	5.9			
Smoky Lake.....	Geo. McDougall Memorial.....	24.....		327.....		2,955.....	33.7	9.0			
Westlock.....	Immaculata.....	38.....		800.....		7,590.....	54.7	9.5			
Division 15.....		110.....	6.3.....	2,035.....	11.7	20,292.....	50.5	9.9			
High Prairie.....	Providence.....	39.....		939.....		9,201.....	64.6	9.8			
McLennan.....	Sacred Heart.....	37.....		606.....		6,397.....	47.4	10.6			
Peace River.....	Municipal.....	34.....		490.....		4,694.....	37.8	9.6			
Division 16.....		145.....	4.8.....	2,514.....	8.4	23,489.....	44.3	9.3			
Berwyn.....	Berwyn and District.....	18.....		419.....		3,076.....	46.8	7.3			
Fairview.....	Fairview Community.....	30.....		347.....		2,710.....	24.7	7.8			
Grand Prairie.....	Municipal.....	79.....		1,448.....		15,068.....	52.6	10.4			
Grimshaw.....	Battle River.....	9.....		199.....		1,879.....	57.2	9.4			
Spirit River.....	Community.....	9.....		101.....		756.....	23.0	7.5			
Division 17.....		62.....	6.4.....	536.....	5.5	6,319.....	27.9	11.8			
Desmarais.....	St. Martin's.....	26.....		164.....		1,872.....	19.7	11.4			
Fort McMurray.....	St. Gabriel.....	23.....		254.....		2,390.....	28.5	9.4			
Fort Vermillion.....	St. Therese.....	13.....		118.....		2,057.....	43.4	17.4			
BRITISH COLUMBIA.....		6,046.....	7.5.....	104,586.....	12.9	1,331,912.....	60.4	12.7	6,108,571	5,345,999	4.01
Division 1.....		262.....	12.4.....	4,081.....	19.3	45,772.....	47.9	11.2	170,927	167,515	3.66
Cranbrook.....	St. Eugene.....	117.....		1,344.....		19,492.....	45.6	14.5	72,099	72,799	3.73
Fernie.....	Fernie General.....	39.....		722.....		9,036.....	63.5	12.5	29,809	23,394	2.59
Golden.....	Golden General.....	17.....		185.....		1,676.....	27.0	9.1	6,766	9,169	5.47
Invermere.....	Windermere District.....	12.....		136.....		1,370.....	31.3	10.1	5,429	7,429	5.42
Kimberley.....	Kimberley.....	59.....		1,432.....		11,102.....	51.6	7.7	44,899	44,799	4.03
Michel.....	Michel.....	18.....		262.....		3,096.....	47.1	11.8	11,925	9,925	3.21
Division 2.....		463.....	9.8.....	9,342.....	19.7	83,363.....	49.3	8.9	313,215	319,337	3.83
Creston.....	Creston Valley.....	30.....		516.....		4,605.....	42.1	8.9	14,920	13,802	3.00
Kaslo.....	Victorian of Kaslo.....	21.....		136.....		3,231.....	40.8	23.8	7,859	9,957	3.08

TABLE 2—PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
(Continued)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
BRITISH COLUMBIA											
—Continued.											
Division 2—Continued.											
Nakusp.....	Arrow Lakes.....	21	300	2,736	35.7	9.1	7,496	7,741	2.83		
Nelson.....	Kootenay Lake.....	108	2,551	24,805	62.9	9.7	81,713	83,330	3.36		
New Denver.....	Slocan Community.....	25	272	2,765	30.3	10.2	9,597	8,758	3.17		
Revelstoke.....	Queen Victoria.....	58	644	6,853	32.4	10.6	23,355	28,071	4.10		
Rossland.....	Mater Misericordia.....	75	1,114	10,930	39.9	9.8	44,584	43,420	3.97		
Trail.....	Trail-Tadanac.....	125	3,809	27,438	60.1	7.2	123,693	124,258	4.53		
Division 3.....		360	7.1	7,501	14.7	74,356	56.6	9.9	303,533	237,693	3.20
Armstrong.....	Armstrong & Spalumcheen.....	22	282	3,658	45.6	13.0	11,233	10,577	2.89		
Enderby.....	Enderby General.....	22	258	2,814	35.0	10.9	9,348	7,486	2.66		
Grand Forks.....	Grand Forks.....	35	257	2,976	23.3	11.6	8,868	10,200	3.43		
Kelowna.....	Kelowna General.....	74	1,734	16,389	60.7	9.4	109,957	56,880	3.47		
Penticton.....	Penticton General.....	58	1,493	15,056	71.1	10.1	49,362	49,483	3.29		
Princeton.....	Princeton General.....	44	885	9,954	62.0	11.2	34,043	31,514	3.17		
Summerland.....	Summerland.....	21	272	3,552	46.3	13.1	13,675	10,914	3.07		
Vernon.....	Vernon Jubilee.....	84	2,320	19,957	65.1	8.6	67,047	60,639	3.04		
Division 4.....		2,598	5.8	44,533	10.0	614,775	64.8	13.8	3,244,995	2,976,466	4.84
Abbotsford.....	Matsqui-Sumas-Abbotsford.....	24	471	4,503	51.4	9.6	15,210	14,950	3.32		
Chilliwack.....	Chilliwack.....	65	1,131	10,855	45.9	9.6	109,011	36,853	3.40		
Garden Bay.....	St. Mary's.....	20	408	3,664	50.2	10.0	17,026	19,121	5.21		
Mission City.....	Mission Memorial.....	39	667	6,122	43.0	9.2	20,684	20,269	3.31		
North Vancouver.....	North Vancouver General.....	64	1,583	17,660	75.6	11.2	80,156	76,799	4.35		
Vancouver.....	St. Paul's.....	603	10,963	133,747	60.8	12.2	910,715	601,451	4.50		
Vancouver.....	St. Vincent's.....	118	902	10,299	23.3	11.1	46,575	64,258	6.41		
Vancouver.....	Vancouver General.....	1,166	21,007	325,886	76.6	15.5	1,710,396	1,794,606	5.51		
Vancouver.....	Salvation Army Grace.....	140	1,408	15,837	31.0	11.2	52,000	62,000	3.79		
Vancouver.....	Crippled Children's.....	26	121	8,332	87.8	68.9	22,000	17,000	2.04		
New Westminster.....	Royal Columbian.....	253	5,090	60,582	65.6	11.9	201,130	206,058	3.40		
New Westminster.....	St. Mary's.....	80	1,882	17,558	60.1	9.3	60,092	65,101	3.71		
Division 5.....		1,492	10.0	24,989	16.8	332,153	60.9	13.3	1,425,024	1,354,977	4.08
Alert Bay.....	St. George's.....	27	610	6,310	64.0	10.3	28,825	28,472	4.51		
Campbell River.....	Lourdes.....	50	583	5,745	31.5	9.0	25,138	28,386	4.94		
Ceepeecree.....	Nootka Mission General.....	12	134	1,682	38.4	12.6	10,820	10,034	5.97		
Chemainus.....	Chemainus General.....	48	686	7,945	45.3	11.6	41,466	29,374	3.70		
Comox.....	St. Joseph's.....	74	1,266	14,501	54.0	11.5	43,021	51,554	3.53		
Cumberland.....	Cumberland General.....	74	782	9,957	36.9	12.7	23,750	25,215	2.53		
Duncan.....	Kings' Daughters.....	97	2,421	26,684	75.4	11.0	87,577	79,999	3.00		
Ganges.....	Lady Minto Gulf Islands.....	18	364	3,409	51.9	9.4	10,677	9,689	2.84		
Ladysmith.....	Ladysmith General.....	45	422	5,508	33.5	13.1	19,576	22,275	4.04		
Nanaimo.....	Nanaimo Hospital.....	81	2,180	23,314	78.9	10.7	81,262	74,921	3.21		
Port Alberni.....	West Coast General.....	77	2,341	25,681	91.4	11.0	90,816	93,911	3.66		
Roch Bay.....	St. Michael's.....	28	278	2,528	24.7	9.1	17,506	18,609	7.36		
Sidney.....	Rest Haven.....	56	604	6,287	30.8	10.4	45,030	45,507	7.23		
Victoria.....	Royal Jubilee.....	400	6,531	92,561	63.4	14.2	530,231	474,150	5.12		
Victoria.....	St. Joseph's.....	314	5,452	73,965	64.5	13.6	296,970	288,521	3.90		
Victoria.....	Queen Alexandra Solarium.....	75	195	23,076	84.3	118.3	59,378	58,763	2.55		
Bamfield.....	Red Cross.....	4	22	45	3.1	2.0	1,115	2,864	63.64		
Zebellos.....	Red Cross.....	12	358	2,865	65.1	8.0	11,866	12,733	4.44		
Division 6.....		275	9.1	5,012	16.6	62,454	62.2	12.5	179,909	176,026	2.82
Ashcroft.....	Lady Minto.....	20	350	3,991	54.7	11.4	8,255	8,137	2.04		
Kamloops.....	Royal Inland.....	140	2,936	39,140	76.6	13.3	111,873	111,142	2.84		
Lytton.....	St. Bartholomew's.....	45	447	5,715	34.8	12.8	13,842	17,189	3.00		
Merritt.....	Nicola Valley General.....	39	337	5,448	38.3	16.2	16,696	17,246	3.17		
Salmon Arm.....	Salmon Arm General.....	31	942	8,160	72.1	8.7	29,243	22,312	2.73		

TABLE 2 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS, SHOWING FIGURES FOR EACH HOSPITAL
(Concluded.)

Census Division and Location	Name of Hospital	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
BRITISH COLUMBIA											
—Continued.											
Division 7.....		120	8.3	2,576	17.9	32,773	74.8	12.7	175,918	150,648	4.60
Bella Bella.....	R. W. Large Memorial.....	27	.....	404	.....	9,241	93.8	22.9	41,224	42,543	4.60
Bella Coola.....	Bella Coola General.....	25	.....	239	.....	5,008	54.9	20.9	16,474	18,601	3.71
Ocean Falls.....	Ocean Falls.....	24	.....	525	.....	5,340	61.0	10.2	47,277	41,286	7.73
Powell River.....	St. Luke's.....	44	.....	1,408	.....	13,184	82.1	9.4	70,943	48,218	3.66
Division 8.....		254	10.0	3,236	12.7	44,434	47.9	13.7	153,576	139,093	3.13
Alexis Creek.....	Chilcotin General.....	10	.....	80	.....	805	11.0	10.1	4,987	4,720	5.86
Burns Lake.....	Burns Lake.....	17	.....	216	.....	2,234	36.0	10.3	9,309	9,492	4.25
Hazelton.....	Hazelton.....	64	.....	497	.....	13,157	56.3	26.5	39,690	36,587	2.79
Prince George.....	City of Prince George.....	40	.....	896	.....	9,011	61.7	10.1	29,514	23,959	2.66
Quesnel.....	Quesnel.....	27	.....	503	.....	6,744	68.4	13.4	28,984	21,397	3.17
Smithers.....	Smithers.....	52	.....	448	.....	5,551	29.2	12.4	22,246	20,345	3.66
Williams Lake.....	War Memorial.....	27	.....	398	.....	5,355	54.3	13.5	13,002	15,206	2.84
McBride.....	Red Cross.....	17	.....	198	.....	1,577	25.4	8.0	5,844	7,387	4.68
Division 9.....		124	6.8	1,707	9.3	26,507	58.6	15.5	96,273	98,748	3.73
Atlin.....	St. Andrews.....	12	.....	64	.....	1,051	24.0	16.4	6,415	6,820	6.49
Port Simpson.....	Port Simpson General.....	37	.....	172	.....	6,145	45.5	35.7	19,500	22,500	3.66
Prince Rupert.....	Prince Rupert General.....	64	.....	1,363	.....	18,089	77.4	13.3	66,458	64,828	3.58
Queen Charlotte.....	Skidegate Inlet General.....	11	.....	108	.....	1,222	30.4	11.3	3,900	4,600	3.76
Division 10.....		98	11.7	1,390	16.6	15,325	42.8	11.0	45,201	39,496	2.58
Dawson Creek.....	St. Joseph's.....	42	.....	566	.....	5,245	34.2	9.3	18,593	15,733	3.00
Fort St. John.....	Providence.....	26	.....	378	.....	4,074	42.9	10.8	13,506	10,856	2.66
Pouce Coupe.....	Pouce Coupe Community.....	26	.....	419	.....	5,823	61.4	13.9	11,507	10,307	1.77
Cecil Lake.....	Red Cross.....	4	.....	27	.....	183	12.5	6.8	1,595	2,600	14.21
YUKON											
Dawson.....	St. Mary's.....	65	.....	467	.....	14,129	59.5	30.2	60,483	59,952	4.24
Mayo.....	General.....	20	.....	127	.....	1,680	23.0	13.2	13,567	13,567	8.07
Whitehorse.....	General.....	43	.....	148	.....	2,255	14.4	15.2	15,564	15,836	7.02
NORTH WEST TERRITORIES											
Aklavik.....	All Saints.....	51	.....	332	.....	5,451	29.3	16.4	17,667	17,667	3.24
Aklavik.....	Immaculate Conception.....	24	.....	138	.....	2,198	25.0	15.9	No Report	No Report	.....
Chesterfield Inlet.....	Ste-Theresa.....	32	.....	159	.....	2,156	18.4	13.5	No Report	No Report	.....
Fort Norman.....	Bishop Bompas.....	16	.....	83	.....	685	11.7	8.3	4,175	6,556	9.57
Fort Rae.....	Farrand Hospital.....	48	.....	154	.....	2,236	12.8	14.5	No Report	No Report	.....
Fort Resolution.....	St. Joseph's.....	30	.....	200	.....	3,085	28.2	15.4	No Report	No Report	.....
Fort Simpson.....	St. Marguerite.....	50	.....	70	.....	5,458	29.9	77.9	No Report	No Report	.....
Fort Smith.....	General.....	56	.....	394	.....	9,684	47.4	24.6	No Report	No Report	.....
Hay River.....	St. Peter's Mission.....	10	.....	14	.....	780	21.4	55.7	No Report	No Report	.....
Pangnirtung.....	Anglican Hospital.....	22	.....	145	.....	4,757	59.2	32.8	10,317	10,317	2.17

TABLE 3—PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS.

Provinces by Census Divisions	Population	Area	Population per Square mile	Hospitals	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
PRINCE EDWARD ISLAND	93,919	2,184	43.00	4	286	3.0	6,795	7.2	65,782	63.0	9.7	159,770	154,602	2.35
Kings.	19,234	641	30.01	1	17	1.1	247	1.3	2,669	43.0	10.8	7,255	7,959	2.98
Prince.	34,269	778	44.05	1	65	1.9	2,671	7.8	20,962	88.4	7.8	41,789	36,273	1.73
Queens.	40,416	765	52.83	2	204	5.0	3,877	9.6	42,151	56.6	10.9	110,726	110,370	2.62
NOVA SCOTIA (1)	573,190	20,743	27.63	31	2,644	4.6	58,447	10.2	633,967	65.7	10.8	1,645,120	1,760,733	3.28
Annapolis.	17,528	1,285	13.64	2	57	3.1	1,326	7.6	10,651	51.2	8.0	26,919	24,127	2.27
Antigonish.	10,524	541	19.45	1	185	1.8	3,625	3.4	33,588	49.7	9.3	145,325	137,572	4.09
Cape Breton (2).	109,922	972	113.09	8	825	7.5	16,603	1.5	173,415	57.6	10.4	580,184	603,125	3.59
Colchester.	30,297	1,451	20.88	1	63	2.1	1,889	6.2	18,058	78.5	9.6	54,995	54,969	3.04
Cumberland.	38,872	1,683	23.10	2	150	3.9	3,270	8.4	32,868	60.0	10.1	103,166	88,135	2.68
Digby.	19,311	970	19.91	1	31	1.6	647	3.4	6,181	54.6	9.6	21,118	23,295	3.77
Guyborough.	15,218	1,611	9.45											
Halifax (3).	121,378	2,063	58.84	5	706	6.8	18,062	14.9	227,579	88.3	12.6	331,650	421,348	3.12
Hants.	22,024	1,229	17.92	1	55	2.5	1,968	8.9	14,822	73.8	7.5	30,311	39,079	2.64
Inverness.	20,462	1,409	14.52	3	141	6.9	1,417	6.9	19,234	38.4	13.6	59,095	68,934	3.58
Kings.	28,561	842	33.92	3	146	6.1	2,815	9.9	27,700	52.0	9.8	84,581	83,209	3.00
Lunenburg.	32,676	1,169	27.95	1	56	1.7	1,362	4.2	14,798	72.4	10.9	44,959	42,198	2.85
Pictou.	40,397	1,124	35.94	2	154	3.8	3,470	8.6	43,181	76.8	12.4	115,992	118,780	2.75
Queens.	12,001	983	12.21											
Richmond.	10,711	489	21.90											
Shelburne.	13,140	979	13.42											
Victoria.	7,993	1,105	7.23											
Yarmouth.	22,175	838	26.46	1	75	3.4	1,993	9.0	18,031	65.9	9.0	46,825	55,962	3.10
NEW BRUNSWICK	453,377	27,473	16.50	16	1,590	3.5	29,003	6.4	339,586	58.5	11.7	1,181,073	1,135,432	3.34
Albert.	8,386	681	12.31	1	16	1.9	156	1.9	1,858	31.8	11.9	5,558	5,680	3.06
Carleton.	21,429	1,300	16.48	1	50	2.3	1,195	5.6	13,087	71.7	10.9	44,621	41,476	3.17
Charlotte.	22,634	1,243	18.21	1	99	4.4	2,247	9.9	18,422	52.4	8.2	62,225	63,394	3.44
Gloucester.	49,668	1,854	26.79	2	105	2.1	1,647	3.3	18,043	47.1	11.0	38,949	35,867	1.99
Kent.	25,688	1,734	14.81											
Kings.	21,917	1,374	15.95											
Nadawaska.	27,904	1,262	22.11	1	45	1.6	762	2.7	8,558	52.1	11.2	26,457	23,900	2.80
Northumberland.	38,160	4,671	8.17	2	116	3.0	1,919	5.0	22,037	52.0	11.5	75,992	81,458	3.70
Queens.	12,633	1,373	9.20											
Restigouche.	32,767	3,242	10.11	2	205	6.3	4,154	12.7	46,151	61.7	11.1	140,801	128,517	2.78
Saint John.	67,359	611	110.24	3	566	4.4	9,637	14.3	131,502	63.7	13.5	446,605	404,331	3.07
Sunbury.	8,440	1,079	7.82											
Victoria.	16,557	2,074	7.98											
Westmorland.	68,836	1,430	44.64	2	251	3.9	5,148	8.1	55,174	60.2	10.7	213,251	220,745	4.00
York.	35,999	3,545	10.15	1	137	3.8	2,138	5.9	24,754	49.5	11.6	126,614	130,030	5.25
QUEBEC (4)	3,319,640	523,534	6.34	76	14,482	4.4	201,881	6.1	3,772,685	71.4	18.7	12,801,386	13,414,168	3.75
Abitibi.	67,415	76,725	0.88	1	38	0.5	798	1.2	9,241	66.6	11.6	16,960	21,185	2.29
Argenteuil.	22,764	783	29.07											
Arthabaska.	30,030	666	45.09	1	78	2.6	1,257	4.2	13,737	48.2	10.9	64,694	57,106	4.16
Bagot.	17,626	346	50.94											
Beaute.	47,809	1,128	42.38	1	69	1.4	629	1.3	13,442	53.4	21.3	34,564	33,314	2.47
Beauharnois.	30,254	147	205.81	1	147	4.8	1,723	5.7	23,467	43.7	13.6	101,027	97,872	4.17
Bellechasse.	23,468	653	35.94	1	40	1.7	580	2.5	5,365	36.7	9.2	21,541	20,340	3.79
Berthier.	20,845	1,816	11.48											
Bonaventure.	39,027	3,464	11.27											
Brome.	12,472	488	25.56											
Chamby.	36,622	138	236.39											
Champlain (Laviotte).	67,994	8,586	7.92	1	54	0.8	691	1.0	8,964	45.5	12.9	45,672	44,670	4.98
Charlevoix.	25,805	2,273	11.35											

(1) 3 hospitals with 98,045 patient days not included in computing per diem cost. No financial reports.

(2) 1 hospital with 5,461 patient days not included in computing per diem cost. No financial report.

(3) 2 hospitals with 92,584 patient days not included in computing per diem cost. No financial reports.

(4) Six hospitals with 192,019 patient days not included in computing per diem cost. No financial reports.

TABLE 3—PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS.—Continued.

Provinces by Census Divisions	Population	Area	Population per Square mile	Hospitals	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
QUEBEC—Continued												No	Report	
Chateauguay.....	15,228	265	57.46											
Chicoutimi.....	78,830	17,800	4.43	1	220	2.8	3,910	4.9	48,904	60.9	12.5			
Compton.....	22,824	933	24.46											
Deux-Montagnes.....	18,737	279	67.16											
Dorchester.....	29,862	842	35.47											
Drummond.....	36,480	532	68.57	1	41	1.1	873	2.4	9,179	61.3	10.5	21,352	29,525	3.22
Frontenac.....	28,564	1,370	20.85											
Gaspé (1).....	55,207	4,551	12.13	3	288	5.2	2,863	5.2	70,781	67.3	24.7	297,165	328,353	4.64
Hull (Gatineau).....	71,187	2,432	29.27	2	198	2.8	3,973	5.6	48,265	66.8	12.1	106,090	112,391	2.33
Huntington.....	12,372	361	34.27											
Iberville.....	10,284	198	51.94											
Joliette (2).....	31,602	2,506	12.61	1	77	2.4	1,519	4.8	16,978	60.4	11.1	116,381	136,846	.81
Kamouraska.....	25,500	1,038	24.57				(see Temis couata)							
Labelle (3).....	23,000	2,392	9.62	1	50	2.2	396	1.7	4,188	22.9	10.6	41,818	43,395	10.36
Lac St-Jean.....	64,172	23,590	2.72	1	66	1.0	1,058	1.6	13,191	54.7	12.5			
Laprairie.....	13,770	170	81.00	1	46	3.3	161	1.2	6,105	36.3	37.9	11,192	10,482	1.72
L'Assomption.....	17,729	247	71.78											
Levis.....	37,948	272	139.51	1	212	5.6	3,144	8.3	39,364	50.8	12.5	197,140	208,414	5.29
L'Islet.....	20,565	773	26.60											
Lotbiniere.....	26,716	726	36.80											
Maskinonge.....	18,427	2,378	7.75											
Matane.....	55,355	3,496	15.83	1	55	1.0	752	1.4	14,904	74.2	19.8	45,368	39,745	2.67
Megantic (4).....	40,504	780	51.93	2	271	6.7	1,586	3.9	86,113	87.1	54.3	169,412	147,677	1.71
Mississquoi.....	21,377	375	57.01	1	22	1.0	408	1.9	3,684	45.9	9.0			
Montcalm.....	15,251	3,894	3.92											
Montmagny.....	22,135	630	35.13											
Montmorency.....	19,044	2,137	8.91	1	57	3.0	419	2.2	5,104	24.5	12.1	35,129	32,834	6.43
MONTREAL (5)														
Jesus Islands.....	1,127,074	294	3,833.59	30	8,610	7.6	119,336	10.6	2,517,494	80.1	21.1	8,811,492	9,398,701	3.73
Napierville.....	8,347	149	56.02											
Nicolet.....	30,078	626	48.04	1	80	2.7	583	1.9	10,421	35.6	17.9	107,571	99,654	9.56
Papineau.....	27,537	1,581	17.42	1	86	3.1	696	2.5	7,793	24.8	11.2	22,214	31,029	3.98
Pontiac.....	19,741	9,560	2.06	1	25	1.3	270	1.4	2,232	24.4	8.3	13,560	13,871	6.21
Portneuf.....	39,245	1,440	27.25											
Quebec (6).....	200,708	2,745	73.12	7	1,723	8.6	27,427	13.7	455,872	72.5	16.6	1,239,909	1,186,372	3.57
Richelieu.....	23,639	221	106.96											
Richmond.....	27,369	544	50.31											
Rimouski (7).....	44,069	2,089	21.10	1	262	5.9	2,827	6.4	42,549	44.5	15.1	160,962	137,148	3.22
Rouville.....	16,129	243	66.37											
Saguenay (8).....														
(New Quebec).....	28,555	315,176	0.09	2	110	3.5	968	3.4	35,566	88.6	36.7	35,925	34,290	1.04
Shefford.....	33,300	567	58.73											
Sherbrooke.....	46,347	238	194.74	3	446	9.6	7,826	1.7	79,779	49.0	10.1	300,924	331,198	4.15
Soulanges.....	9,317	136	68.50											
Stanstead.....	27,768	432	64.27											
St-Hyacinthe.....	31,551	278	113.49	1	172	5.5	2,431	7.7	27,351	43.6	11.2	104,064	100,130	3.66
St-Jean.....	20,552	205	100.25	1	179	8.7	2,114	10.3	21,013	32.1	9.9	82,717	108,161	5.15
St-Maurice.....	80,064	1,820	43.99	3	509	6.4	5,181	6.4	66,253	35.6	12.8	393,514	411,752	6.21
Timiskaming.....	40,412	8,977	4.50	1	117	2.9	3,364	8.3	40,874	95.7	12.1	116,252	113,389	2.77
Temiscouata.....	57,382	1,806	31.77	1	134	2.3	2,118	3.7	24,512	50.1	11.5	86,777	84,324	3.44
Terrebonne.....	47,942	782	61.30											
Vaudreuil.....	13,425	201	66.79											
Vercheres.....	14,308	199	71.89											
Wolfe.....	17,469	680	25.69											
Yamaska.....	16,511	365	45.23											

(1) Includes T. B. 71 beds, 293 patients, 30,164 patient days.

(2) Revenue and Expenditures includes orphanage and home for aged.

(3) Does not include number of incurable patients and patient days.

(4) Includes 187 beds, 459 patients, 65,901 patient days for T. B. and incurables.

(5) Includes 992 beds, 1,470 patients, 180,667 patient days for T. B. and incurables.

(6) 123,722 patient days of 2 hospitals not included in computing per diem cost. No financial reports.

(7) Includes T. B.—76 beds, 199 patients, 22,632 patient days.

(8) Includes T. B.—30 beds, 74 patients, 9,043 patient days.

2,518 patient days of 1 hospital not included in computing per diem cost. No financial reports.

TABLE 3—PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS.—Continued.

Provinces by Census Divisions	Population	Area	Population per Square mile	Hospitals	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
ONTARIO	3,756,632	363,282	10.34	158	16,343	4.3	322,653	8.6	4,009,128	67.2	12.4	14,797,139	12,883,990	3.22
Addington	7,024	873	8.05											
Algoma	51,850	19,320	2.68	8	260	5.0	4,313	8.3	42,103	44.4	9.7	136,234	124,892	2.97
Brant	56,020	421	133.06	2	297	5.3	4,912	8.8	66,285	61.1	13.4	206,895	212,742	3.20
Bruce	41,491	1,650	25.15	3	92	2.2	1,481	3.6	15,078	44.9	10.1	48,864	41,523	2.75
Carleton	199,512	947	210.68	5	1,276	6.4	27,058	13.5	380,463	81.7	14.0	1,357,804	1,090,195	2.87
Cochrane	79,614	52,237	1.52	6	368	4.6	8,117	10.1	83,704	62.3	10.8	297,763	286,011	3.42
Dufferin	14,024	557	25.18	1	45	3.2	769	5.4	9,829	59.8	12.7	30,326	24,906	2.53
Dundas	16,119	384	41.98											
Durham	25,091	629	39.89	2	80	3.1	1,471	5.8	14,418	49.4	9.8	45,070	41,548	2.88
Elgin	46,021	720	63.92	1	125	2.7	3,168	6.8	35,812	78.4	11.3	141,905	116,300	3.25
Essex	173,116	707	244.86	5	503	2.9	13,483	7.8	125,810	68.5	9.3	496,794	461,371	3.67
Frontenac	52,990	1,599	33.14	2	561	10.5	10,913	20.5	126,450	61.7	11.6	493,179	414,676	3.28
Glenarry	18,803	478	39.34											
Grenville	15,931	463	34.41											
Grey	56,813	1,708	33.26	3	156	2.7	2,526	4.4	29,289	51.4	11.5	103,728	88,133	3.01
Haldimand	21,734	488	44.54	1	30	1.8	499	2.3	4,752	43.4	9.5	15,298	15,386	3.24
Haliburton	6,736	1,486	4.53	2	19	2.8	146	2.2	970	14.0	6.6	3,338	6,154	6.34
Halton	28,399	363	78.23	1	33	1.1	71	0.2	1,961	16.2	27.6	2,020	1,597	.81
Hastings	62,725	2,323	27.00	3	212	3.3	5,029	8.0	51,257	66.2	10.1	197,406	149,371	2.91
Huron	43,558	1,295	33.64	4	129	2.9	2,147	4.9	24,168	51.3	11.3	84,364	72,439	3.00
Kenora	23,751	18,150	1.31	6	208	8.7	3,177	13.3	34,678	45.7	10.9	106,212	96,721	2.79
Kent	65,975	918	71.87	2	263	3.9	5,724	8.7	55,861	58.1	9.8	206,213	150,800	2.70
Lambton	56,733	1,124	50.47	2	163	2.8	3,442	6.0	39,041	65.6	11.3	132,999	119,366	3.06
Lanark	32,872	1,138	28.89	4	186	5.6	3,367	10.2	43,902	64.7	13.0	148,416	119,498	2.72
Leeds	35,740	900	39.71	2	179	5.0	3,620	10.1	44,270	67.8	12.2	188,728	144,413	3.26
Lennox	11,348	297	38.21											
Lincoln	64,796	332	195.17	2	190	2.9	4,298	6.6	44,220	63.8	10.3	168,442	150,465	3.40
Manitoulin	11,102	1,588	6.99	1	22	1.9	315	2.8	3,001	37.3	9.5	7,268	7,977	2.66
Middlesex	125,728	1,240	101.39	3	828	6.6	14,400	11.4	206,969	68.4	14.3	854,446	670,594	3.24
Muskoka	21,787	1,585	13.75	1	33	1.5	805	3.6	7,892	65.5	9.8	22,528	20,818	2.64
Nipissing	43,117	7,560	5.70	5	265	6.1	4,001	9.3	53,501	55.3	13.4	174,777	131,077	2.45
Norfolk	35,317	634	55.71	1	76	2.1	1,716	4.8	18,469	66.6	10.7	54,539	59,018	3.20
Northumberland	30,771	734	41.92	1	58	1.9	877	2.8	9,485	44.8	10.8	30,736	27,320	2.88
Ontario	65,661	853	76.98	1	111	1.7	3,475	5.2	28,100	69.4	8.1	117,357	93,997	3.35
Oxford	50,696	765	66.27	3	206	1.4	3,074	6.0	44,238	58.8	14.3	142,023	132,151	2.99
Parry Sound	30,530	4,336	7.04	3	105	3.4	2,251	7.3	26,538	69.2	11.8	71,340	48,041	1.81
Peel	31,624	469	69.43	1	56	1.7	1,218	3.8	11,073	54.1	9.0	37,219	33,151	2.99
Perth	49,404	840	58.81	2	165	3.3	2,985	6.0	32,251	55.5	10.8	110,313	102,260	3.17
Peterborough	46,963	1,415	33.19	3	194	4.1	4,381	9.3	52,791	74.5	12.0	233,191	153,497	2.90
Prescott	25,275	494	51.16	1	26	1.0	686	2.7	5,880	61.9	8.5	16,296	17,067	2.90
Prince Edward	16,712	390	42.85	1	52	3.1	977	5.8	11,204	59.0	11.5	30,315	22,153	1.98
Rainy River	19,015	7,276	2.61	3	32	1.6	585	7.6	5,822	49.8	9.9	15,062	19,520	3.35
Renfrew	54,193	3,009	18.01	3	237	4.4	4,419	8.1	50,810	58.7	11.5	161,242	139,955	2.75
Russell	17,340	407	42.60											
Simcoe	86,635	1,663	52.10	7	383	4.4	7,276	8.4	88,138	63.0	12.1	250,642	208,904	2.37
Stormont	40,466	412	98.22	2	258	6.4	5,340	13.1	62,154	66.0	11.6	182,728	155,374	2.50
Sudbury	80,240	18,058	4.44	4	303	3.8	7,117	8.9	69,439	62.8	9.8	258,434	195,383	2.81
Thunder Bay	84,541	52,471	1.61	7	578	6.8	12,125	14.3	146,094	69.2	12.0	509,151	373,218	2.55
Temiskaming	49,914	5,896	8.47	5	249	5.0	5,251	10.5	50,477	55.5	9.6	192,150	170,160	3.37
Victoria (1)	25,836	1,348	19.17	2	85	3.3	1,615	6.2	18,044	58.1	11.1	58,020	47,022	2.61
Waterloo	98,065	516	190.05	3	356	3.6	7,206	7.3	80,773	62.1	11.2	361,662	279,115	3.46
Welland	93,318	387	241.13	3	271	2.9	5,912	6.3	57,740	58.4	12.0	234,017	189,968	3.29
Wellington	59,083	1,019	57.98	5	310	5.2	5,354	9.0	66,105	58.4	12.3	235,467	206,195	3.12
Wentworth	204,962	458	447.52	2	1,012	4.9	20,420	9.9	245,663	66.5	12.0	861,635	813,164	3.31
York (2)	939,326	882	1,065.00	18	4,797	5.1	89,141	9.5	1,282,156	73.2	14.3	4,962,593	4,713,622	3.75
District of Patricia	10,225	135,070	0.08											
MANITOBA (3)	722,447	219,723	3.29	42	4,026	5.5	81,042	11.2	920,539	62.6	11.3	2,939,670	3,048,964	3.37
Division No. 1	27,732	4,281	6.48	2	83	2.9	1,664	6.0	14,121	46.6	8.4	29,220	28,667	2.03
Division No. 2	41,364	2,320	17.83	3	94	2.2	1,831	4.4	16,960	49.4	9.2	41,971	37,182	2.19
Division No. 3	24,598	2,577	9.55											

(1) Does not include one isolation hospital with 11 beds.

(2) One hospital with 25,636 patient days not included in computing per diem cost. No financial report.

(3) Three hospitals with 15,778 patient days not included in computing per diem cost. No financial report.

TABLE 3—PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS.—Continued.

Provinces by Census Divisions	Population	Area	Population per Square mile	Hospitals	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
MANITOBA—Continued														
Division No. 4	15,582	2,466	6.32	1	22	1.4	755	4.8	5,514	68.7	7.3	15,336	15,884	2.88
Division No. 5	48,318	5,256	9.19	1	28	0.5	514	1.6	5,791	56.6	11.2	15,299	23,482	4.05
Division No. 6	290,186	2,436	119.12	13	2,711	9.3	47,611	19.8	694,070	70.1	12.0	2,398,307	2,497,225	3.60
Division No. 7	36,291	2,578	14.08	1	222	6.1	2,953	8.1	45,626	56.3	15.4	144,150	133,426	2.92
Division No. 8 (1)	17,604	2,160	8.15	2	68	3.8	1,256	7.1	10,006	40.3	7.9	17,263	16,823	3.03
Division No. 9	46,867	1,217	38.51	2	117	2.4	2,466	5.2	17,784	41.6	7.2	39,696	43,390	2.44
Division No. 10	19,365	2,377	8.15	2	66	3.4	1,160	5.9	10,529	43.7	9.0	22,088	23,343	2.22
Division No. 11	26,370	2,914	9.05	4	72	2.7	1,353	5.1	12,669	48.2	9.3	24,534	25,293	2.00
Division No. 12	25,537	3,240	7.88	2	73	2.8	992	3.8	8,320	31.2	8.3	18,722	19,222	2.31
Division No. 13	25,836	3,324	7.77	4	205	7.9	4,113	15.9	36,539	48.8	8.8	90,910	93,894	2.57
Division No. 14	26,897	3,636	7.40	2	74	2.7	1,436	5.3	11,333	41.9	7.8	No Reports	9,656	...
Division No. 15	12,035	2,304	5.22	1	31	2.5	449	3.7	4,152	36.7	9.2	9,713	9,656	2.33
Division No. 16	37,865	176,637	0.21	2	160	4.2	2,489	6.5	27,125	46.4	10.8	72,461	81,477	3.00
SASKATCHEWAN (2)	887,747	237,975	3.73	89	4,315	4.8	86,008	9.7	893,167	56.7	10.3	2,759,828	2,853,535	3.29
Division No. 1	33,936	5,944	5.71	5	124	3.6	2,487	7.3	23,683	52.3	9.5	86,767	64,652	2.73
Division No. 2	35,930	6,686	5.37	2	83	2.3	1,447	4.0	14,128	46.6	9.7	40,478	42,917	3.04
Division No. 3 (3)	38,419	7,646	5.02	6	206	5.3	2,436	6.1	21,618	28.7	8.8	68,610	87,102	4.39
Division No. 4 (4)	22,085	7,579	2.91	4	105	4.7	2,115	9.6	18,781	49.0	8.9	53,808	55,878	3.21
Division No. 5	50,711	5,760	8.80	4	90	1.8	1,768	3.4	14,731	44.8	8.3	40,717	35,644	2.42
Division No. 6 (5)	107,560	6,787	15.85	5	785	7.3	15,323	14.2	187,393	65.4	12.2	635,285	677,529	3.72
Division No. 7	53,392	7,471	7.15	5	408	7.6	5,902	11.0	80,888	54.3	13.7	215,593	221,455	2.74
Division No. 8 (6)	42,590	9,264	4.60	8	217	5.2	4,805	11.2	43,376	54.7	9.0	133,295	127,676	3.04
Division No. 9	62,107	5,010	12.40	3	195	3.1	5,450	8.7	42,211	59.3	7.7	131,389	119,742	2.84
Division No. 10	43,008	4,860	8.85	3	87	2.0	2,050	4.7	19,502	61.4	9.5	43,335	42,559	2.18
Division No. 11 (7)	79,039	5,979	13.22	5	588	7.4	12,689	16.0	140,501	65.4	11.0	526,433	610,142	4.45
Division No. 12	34,442	5,982	5.76	3	124	3.6	2,193	6.3	23,058	50.9	10.5	78,903	65,832	2.86
Division No. 13	36,201	6,848	5.29	7	244	6.7	4,531	12.5	42,897	48.1	9.4	130,619	129,984	3.03
Division No. 14 (8)	64,848	13,419	4.83	9	251	3.8	5,789	8.9	47,857	52.2	8.2	115,769	110,179	2.54
Division No. 15 (9)	88,331	8,082	10.93	10	466	5.3	9,618	10.9	94,108	55.3	9.7	288,164	279,356	2.99
Division No. 16	52,892	8,912	5.93	3	139	2.6	2,828	5.3	26,494	52.2	9.3	72,895	79,584	3.00
Division No. 17 (10)	32,891	6,913	4.76	5	160	4.8	4,025	12.2	46,491	79.6	11.5	88,688	90,768	2.27
Division No. 18 (11)	9,365	114,833	0.08	2	43	4.5	552	5.2	5,450	34.7	9.8	9,076	12,536	3.30
ALBERTA (12)	788,393	248,800	3.17	90	5,180	6.6	96,755	12.2	1,053,578	55.7	10.9	4,024,444	3,566,510	3.39
Division No. 1	29,329	7,323	4.01	2	156	5.3	2,698	9.2	27,097	47.6	10.0	.....	.....	.....
Division No. 2	57,960	6,342	9.14	8	400	6.9	10,143	17.5	92,478	63.3	9.1	.....	.....	.....
Division No. 3	15,453	7,018	2.20	2	61	3.9	974	6.3	9,496	42.6	9.7	.....	.....	.....
Division No. 4	29,091	6,119	4.75	3	98	3.3	2,177	7.4	19,700	55.0	9.0	.....	.....	.....
Division No. 5	18,814	7,681	2.45	2	77	4.1	1,105	5.9	11,229	39.9	10.2	.....	.....	.....
Division No. 6	144,643	10,595	13.65	12	1,012	7.0	20,507	14.2	252,553	68.3	12.3	.....	.....	.....
Division No. 7	33,023	6,684	4.94	9	246	7.4	4,373	13.2	41,205	45.9	9.4	.....	.....	.....
Division No. 8	66,995	6,510	10.29	7	340	5.1	7,311	10.9	62,538	50.4	8.5	.....	.....	.....
Division No. 9	32,169	14,415	2.23	6	114	3.5	2,200	6.8	18,396	44.2	8.3	.....	.....	.....
Division No. 10	58,529	6,180	9.47	9	359	6.1	8,209	14.0	71,165	54.3	8.7	.....	.....	.....
Division No. 11	147,491	4,753	31.03	6	1,530	10.4	23,157	15.7	318,592	57.0	13.8	.....	.....	.....
Division No. 12	17,139	13,083	1.31	1	38	2.2	751	4.3	7,405	53.4	9.8	.....	.....	.....
Division No. 13	33,058	8,103	4.08	7	206	6.2	4,083	12.4	33,937	45.1	8.3	.....	.....	.....
Division No. 14	47,713	8,731	5.46	5	223	4.6	3,982	8.3	37,687	46.3	9.5	.....	.....	.....
Division No. 15	17,345	22,845	0.76	3	110	6.3	2,035	11.7	20,292	50.5	9.9	.....	.....	.....
Division No. 16	29,936	11,100	2.70	5	145	4.8	2,514	8.4	23,489	44.3	9.3	.....	.....	.....
Division No. 17	9,705	101,318	0.10	3	62	6.4	536	5.5	6,319	27.9	11.8	.....	.....	.....

(1) 1 hospital with 4,445 patient days not included in computing per diem cost.
(2) 11 hospitals with 27,082 patient days not included in computing per diem cost.
(3) 1 hospital with 1,785 patient days not included in computing per diem cost.
(4) 1 hospital with 1,381 patient days not included in computing per diem cost.
(5) 1 hospital with 5,698 patient days not included in computing per diem cost.
(6) 1 hospital with 1,351 patient days not included in computing per diem cost.
(7) 1 hospital with 3,305 patient days not included in computing per diem cost.
(8) 3 hospitals with 4,552 patient days not included in computing per diem cost.
(9) 1 hospital with 942 patient days not included in computing per diem cost.
(10) 1 hospital with 6,423 patient days not included in computing per diem cost.
(11) 1 hospital with 1,645 patient days not included in computing per diem cost.
(12) Total Revenue and Total Expenditures obtained from Alberta Public Accounts.

TABLE 3 — PUBLIC HOSPITALS BY PROVINCES AND CENSUS DIVISIONS. — Concluded.

Provinces by Census Divisions	Population	Area	Population per Square mile	Hospitals	Capacity	Beds per 1,000	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$	
BRITISH COLUMBIA . . .	809,203	359,279	2.25	77	6,046	7.5	104,586	12.9	1,331,912	60.4	12.7	6,108,571	5,345,899	4.01
Division No. 1 . . .	21,093	15,984	1.32	6	262	12.4	4,081	19.3	45,772	47.9	11.2	170,927	167,515	3.66
Division No. 2 . . .	47,450	13,343	3.56	8	463	9.8	9,342	19.7	83,363	49.3	8.9	313,215	319,337	3.83
Division No. 3 . . .	51,020	10,729	4.76	8	360	7.1	7,501	14.7	74,356	56.6	9.9	303,533	237,693	3.20
Division No. 4 . . .	444,443	9,764	45.52	12	2,598	5.8	44,533	10.0	614,775	64.8	13.8	3,244,995	2,976,466	4.84
Division No. 5 . . .	148,436	13,206	11.24	18	1,492	10.0	24,929	16.8	332,153	60.9	13.3	1,425,024	1,354,977	4.08
Division No. 6 . . .	30,270	31,420	0.96	5	275	9.1	5,012	16.6	62,454	62.2	12.5	179,909	176,026	2.82
Division No. 7 . . .	14,408	22,187	0.65	4	120	8.3	2,576	17.9	32,773	74.8	12.7	175,918	150,648	4.60
Division No. 8 . . .	25,428	71,985	0.35	8	254	10.0	3,236	12.7	44,434	47.9	13.7	153,576	139,093	3.13
Division No. 9 . . .	18,263	88,128	0.21	4	124	6.8	1,707	9.3	26,507	58.6	15.5	96,273	97,748	3.73
Division No. 10 . . .	8,392	82,533	0.10	4	98	11.7	1,390	16.6	15,325	42.8	11.0	45,201	39,496	2.58
YUKON	4,687	205,346	0.02	3	128	27.3	742	15.8	18,064	38.7	24.3	89,614	89,355	4.95
NORTH WEST TERRITORIES (1) . . .	10,849	1,258,217	0.01	10	327	30.1	1,689	15.5	36,490	30.6	21.6	32,159	34,540	3.17

(1) 7 hospitals with 25,597 patient days not included in computing per diem cost. No financial reports.

TABLE 4 — PUBLIC HOSPITALS BY PROVINCES.

Province	Population	Area	Population per Square mile	Hospitals	Capacity	Beds per 1,000	Patients Treated	% of Population	Days Treatment	% of Bed Occupancy	Average Stay	Total Revenue \$	Total Expenditures \$	Cost per Patient Day \$
CANADA (1) . . .	11,420,084	3,466,556	3.29	596	55,367	.....	989,601	.....	13,074,898	.....	.....	46,538,774	44,287,828	3.48
Prince Edward Island	93,919	2,184	43.00	4	286	3.0	6,795	7.2	65,782	63.0	9.7	159,770	154,602	2.35
Nova Scotia (2) . . .	573,190	20,743	27.63	31	2,644	4.6	58,447	10.2	633,967	65.7	10.8	1,645,120	1,760,733	3.28
New Brunswick . . .	453,377	27,473	16.50	16	1,590	3.5	29,003	6.4	339,586	58.5	11.7	1,181,073	1,135,432	3.34
Quebec (3) . . .	3,319,640	523,534	6.34	76	14,482	4.4	201,881	6.1	3,772,685	71.4	18.7	12,801,386	13,414,168	3.75
Ontario	3,756,632	363,282	10.34	158	16,343	4.3	322,653	8.6	4,009,128	67.2	12.4	14,797,139	12,883,990	3.22
Manitoba (4) . . .	722,447	219,723	3.29	42	4,026	5.5	81,042	11.2	920,539	62.6	11.3	2,939,670	3,048,964	3.37
Saskatchewan (5) . . .	887,747	237,975	3.73	89	4,315	4.8	86,008	9.7	893,167	56.7	10.3	2,759,828	2,853,535	3.29
Alberta	788,393	248,800	3.17	90	5,180	6.6	96,755	12.2	1,053,578	55.7	10.9	4,024,444	3,566,510	3.39
British Columbia . . .	809,203	359,279	2.25	77	6,046	7.5	104,586	12.9	1,331,912	60.4	12.7	6,108,571	5,345,999	4.01
YUKON	4,687	205,346	0.02	3	128	.....	742	.....	18,064	.....	.....	89,614	89,355	4.95
North West Territories (6) . . .	10,849	1,258,217	0.01	10	327	.....	1,689	.....	36,490	.....	.....	32,159	34,540	3.17

(1) 30 hospitals with 358,521 patient days not included in computing per diem cost. No financial reports.

(2) 3 hospitals with 98,045 patient days not included in computing per diem cost. No financial reports.

(3) 6 hospitals with 192,019 patient days not included in computing per diem cost. No financial reports.

(4) 3 hospitals with 15,778 patient days not included in computing per diem cost. No financial reports.

(5) 11 hospitals with 27,082 patient days not included in computing per diem cost. No financial reports.

(6) 7 hospitals with 25,597 patient days not included in computing per diem cost. No financial reports.

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurses	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
PRINCE EDWARD ISLAND												
Kings												
Montague.....	Kings County.....	7.31	3	2.4	.....	.....	.....	6	1.2	.....	6	1.2
Prince												
Summerside.....	Prince County.....	57.42	8	7.1	24	2.4	1.8	85	0.7	16	.....	3.6
Queens												
Charlottetown.....	Charlottetown.....	52.30	6	8.7	26	2.0	1.6	59	0.9	7	.....	7.5
Charlottetown.....	Prince Edward Island.....	63.16	6	10.5	29	2.2	1.8	64	1.0	13	.....	4.9
Nova Scotia												
Annapolis												
Annapolis Royal.....	General.....	12.36	5	2.4	.....	.....	.....	10	1.2	.....	5	2.5
Middleton.....	Soldier's Memorial.....	16.81	5	3.3	.....	.....	.....	10	1.6	.....	7	2.4
Antigonish												
Antigonish.....	St. Martha's.....	92.06	11	8.3	60	1.5	1.3	140	0.7	.....	10	9.2
Cape Breton												
Glace Bay.....	General.....	84.32	12	7.0	57	1.5	1.2	108	0.8	21	.....	4.0
Glace Bay.....	St. Joseph's.....	114.82	8	14.3	62	1.9	1.6	130	0.9	19	.....	6.0
New Waterford.....	General.....	63.33	8	7.9	39	1.6	1.4	70	0.9	6	.....	10.6
North Sydney.....	Hamilton Memorial.....	39.30	10	3.9	15	2.6	1.6	39	1.0	19	.....	2.1
Sydney.....	City of Sydney.....	72.10	21	3.4	25	2.9	1.6	96	0.8	29	.....	2.5
Sydney.....	St. Rita's.....	56.69	20	2.8	.....	.....	.....	42	1.4	25	.....	2.3
Sydney.....	Salvation Army.....	14.95	5	2.9	.....	.....	.....	11	1.3	4	.....	3.7
Sydney Mines.....	Harbour View.....	29.62	10	2.9	.....	.....	.....	21	1.4	11	.....	2.7
Colchester												
Truro.....	Colchester County.....	49.46	16	3.0	.....	.....	.....	28	1.7	16	.....	3.1
Cumberland												
Amherst.....	Highland View.....	42.71	8	5.3	17	2.5	1.7	37	1.2	8	.....	5.3
Springhill.....	All Saints.....	47.33	8	5.9	15	3.2	2.1	37	1.3	6	.....	7.9
Digby												
Digby.....	General.....	16.93	6	2.8	.....	.....	.....	15	1.1	17	.....	1.0
Guysborough.....	None.											
Halifax												
Halifax.....	Infirmary.....	216.39	54	4.0	90	2.4	1.5	278	0.8	68	.....	3.2
Halifax.....	Victoria.....	222.85	14	15.9	127	1.8	1.4	275	0.8	81	.....	2.8
Halifax.....	Salvation Army Grace.....	83.26	8	10.4	32	2.6	2.1	66	1.3	60	.....	1.4
Halifax.....	Children's.....	63.72	8	8.0	34	1.9	1.5	78	0.8	21	.....	3.0
Halifax.....	Infectious Diseases.....	37.25	7	5.3	.....	.....	.....	22	1.6	20	.....	1.9
Hants												
Windsor.....	Payzant Memorial.....	40.59	5	8.1	15	2.7	2.0	30	1.3	8	.....	5.1
Inverness												
Cheticamp.....	Sacred Heart.....	12.49	4	3.1	.....	.....	.....	15	0.8	7	.....	1.8
Inverness.....	County Memorial.....	21.56	6	3.6	.....	.....	.....	12	1.8	3	.....	7.2
Inverness.....	St. Mary's.....	18.64	8	2.3	.....	.....	.....	19	0.9	8	.....	2.3

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurses	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
NOVA SCOTIA —continued.												
Kings												
Berwick.....	Western Kings Memorial.	15.23	6	2.5	.....	.....	.....	13	1.1*	.....	6	2.6
Kentville.....	Blanchard-Fraser Memorial.....	43.08	12	3.6	.....	.....	.....	25	1.7	18	.....	2.4
Wolfville.....	Eastern Kings Memorial.	17.56	8	2.2	.....	.....	.....	15	1.1	7	.....	2.5
Lunenburg												
Bridgewater.....	Dawson Memorial.....	40.54	14	2.9	.....	.....	.....	29	1.4	14	.....	2.9
Pictou												
New Glasgow.....	Aberdeen.....	106.17	7	15.2	57	1.9	1.7	100	1.6	19	.....	5.6
Pictou.....	Sutherland Memorial.....	12.13	6	2.0	.....	.....	.....	9	1.3	.....	6	2.0
Queens.....	None.											
Richmond.....	None.											
Shelburne.....	None.											
Victoria.....	None.											
Yarmouth												
Yarmouth.....	Yarmouth.....	49.39	9	5.4	28	1.8	1.3	60	0.8	10	.....	4.9
NEW BRUNSWICK												
Albert												
Riverside.....	McLelan Memorial.....	5.09	2	2.5	.....	.....	.....	5	1.0	.....	2	2.0
Carleton												
Woodstock.....	L. P. Fisher Memorial....	35.89	6	6.0	18	2.0	1.5	34	1.0	6	.....	6.0
Charlotte												
St. Stephen.....	Chipman Memorial.....	50.47	6	8.4	45	1.1	1.0	70	0.7	21	.....	2.4
Gloucester												
Bathurst.....	James Hamet Dunn.....	27.92	8	3.5	10	2.8	1.6	30	0.9	6	.....	4.7
Tracadie.....	H.-D. of St. Joseph.....	21.50	8	2.7	.....	.....	.....	18	1.2	6	.....	3.6
Kent.....	None.											
Kings.....	None.											
Madawaska												
St. Basil.....	H.-D. of St. Joseph.....	23.44	8	2.9	8	3.0	2.0	26	0.9	9	.....	2.6
Northumberland												
Chatham.....	H.-D. of St. Joseph.....	35.97	6	6.0	24	1.4	1.2	39	0.9	8	.....	4.5
Newcastle.....	Miramichi.....	24.18	4	6.0	19	1.3	1.0	35	0.7	6	.....	4.0
Queens.....	None.											
Restigouche												
Campbellton.....	H.-D. of St. Joseph.....	91.40	7	13.0	42	2.2	1.9	104	0.9	10	.....	9.1
Campbellton.....	Soldiers Memorial.....	35.00	4	8.8	25	1.4	1.2	39	0.9	11	.....	3.2

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurses	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
NEW BRUNSWICK —continued												
Saint John	.											
Saint John	General	292.10	25	11.7	133	2.2	1.8	320	0.9	54	.....	5.4
Saint John	St. Joseph's	54.23	10	5.4	40	1.4	1.1	96	0.5	56	.....	1.0
Saint John	Evangeline Maternity	13.94	7	2.0	.....	.....	.....	9	1.5	.....	20	1.6
Sunbury	None											
Victoria	None											
Westmorland												
Moncton	H.-D. de l'Assomption	67.05	12	5.6	35	1.9	1.4	74	0.9	27	.....	2.4
Moncton	Moncton	84.10	12	7.0	59	1.4	1.2	113	0.7	35	.....	2.4
York												
Fredericton	Victoria	67.81	8	8.5	42	1.6	1.4	83	0.8	32	.....	2.1
QUEBEC												
Abitibi												
Amos	Hôpital Ste-Thérèse	25.31	5	5.1	.....	.....	.....	23	1.1	.....	6	4.2
Argenteuil	None											
Arthabaska												
Arthabaska	H.-D. de St-Joseph	37.62	21	1.8	10	3.8	.....	54	0.7	.....	10	3.8
Bagot	None											
Beauce												
Beauceville Ouest	Hôpital St-Joseph	36.82	5	7.4	.....	.....	.....	23	1.6	.....	4	9.2
Beauharnois												
Valleyfield	Hôtel-Dieu	64.28	28	2.3	.....	.....	.....	83	0.8	.....	28	2.3
Bellechasse												
Ville Marie	Hôpital Ste-Famille	14.69	1	14.7	.....	.....	.....	20	0.7	.....	3	4.9
Berthier	None											
Bonaventure	None											
Brome	None											
Chambly	None											
Champlain												
La Tuque	Hôpital St-Joseph	24.41	6	4.1	.....	.....	.....	50	0.5	.....	5	4.9
Charlevoix	None											
Chateauguay	None											
Chicoutimi												
Chicoutimi	H.-D. St-Vallier	133.98	30	4.5	41	3.3	1.9	146	0.9	18	.....	7.4

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurses	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
QUEBEC—continued.												
Compton.....	None.											
Deux-Montagnes...	None.											
Dorchester.....	None.											
Drummond												
Drummondville..	Hôpital Ste-Croix.....	25.15	7	3.6	.....	.....	.....	24	1.0	16	.....	1.6
Frontenac.....	None.											
Gaspé												
Cap-aux-Meules..	Hôpital N.-D. de la Garde	52.23	7	7.5	.....	.....	.....	37	1.4	.....	3	17.4
Gaspe Harbour...	H.-D. de Gaspé.....	51.93	8	6.5	.....	.....	.....	44	1.2	.....	3	17.3
Ste-Anne des Monts.....	Hôpital Ste-Anne.....	89.75	4	22.4	.....	.....	.....	23	3.9	2	.....	44.9
Hull (Gatineau)												
Hull.....	Hôpital du Sacré-Cœur...	120.87	10	12.1	44	2.6	2.2	122	0.9	26	.....	4.7
Maniwaki.....	Hôpital St-Joseph.....	11.07	1	11.1	.....	.....	.....	16	0.8	3	.....	3.7
Huntington.....	None.											
Iberville.....	None.											
Joliette												
Joliette.....	Hôpital St-Eusèbe.....	45.51	12	3.8	28	1.6	1.1	73	0.6	13	.....	3.5
Kamouraska.....	None.											
Labelle												
Mont-Laurier....	Hôpital Ste-Anne.....	11.44	1	11.4	.....	.....	.....	9	1.2	.....	6	1.9
Lac St-Jean												
Roberval.....	Hôtel-Dieu St-Michel....	36.14	7	5.2	.....	.....	.....	29	1.2	7	.....	5.2
Laprairie												
Caughnawaga....	Hôpital du Sacré-Cœur...	16.71	2	8.4	.....	.....	.....	12	1.4	.....	3	5.3
L'Assomption.....	None.											
Lévis												
Lévis.....	H.-D. du Cœur Agonisant de Jésus.....	107.84	35	3.1	36	3.0	.....	129	0.9	32	.....	3.4
L'Islet.....	None.											
Lotbinière.....	None.											
Maskinongé.....	None.											
Matane												
Matane.....	Hôpital St-Rédempteur...	40.83	8	5.1	.....	.....	.....	29	1.4	.....	7	5.8

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurses	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
QUEBEC—continued.												
Mégantic												
Plessisville.....	Hôpital du Sacré-Cœur.....	84.49	5	16.8				45	1.9		4	21.1
Thetford Mines.....	Hôpital St-Joseph.....	151.44	7	21.6				87	1.7	15	.....	10.1
Missisquoi												
Sweetsburg.....	Brome-Missisquoi-Perkins	10.09	7	1.4				12	0.8	.....	20	5.0
Montcalm.....	None.											
Montmagny.....	None.											
Montmorency												
Ste-Anne de Beaupré	Hôpital Ste-Anne de Beaupré.....	13.98	3	4.6				18	0.8	12	.....	1.2
Montreal and Jesus Islands												
Lachine.....	Hôpital St-Joseph.....	53.26	14	3.8	30	1.8	1.2	73	0.7	31	.....	1.7
Lachine.....	Général.....	29.47	14	2.1						30	.....	0.9
Montreal.....	Homœopathic.....	103.28	31	3.3	63	1.6	1.1	207	0.5	28	.....	3.7
Montreal.....	Hôpital Notre-Dame.....	596.73	51	11.7	176	3.4	2.6	621	0.9	109	.....	5.5
Montreal.....	Hôpital Ste-Jeanne d'Arc.....	209.68	31	6.8	87	2.4	1.8	227	0.9	64	.....	3.3
Montreal.....	Hôpital Ste-Justine.....	446.28	87	5.1	101	4.4	2.4	517	0.9	68	.....	6.5
Montreal.....	Hôpital St-Luc.....	408.16	69	5.9	47	8.7	3.5	389	1.0	46	.....	8.9
Montreal.....	Hôtel-Dieu de Montréal.....	385.07	80	4.8	122	3.1	1.9	425	0.9	89	.....	4.3
Montreal.....	Jewish General.....	169.22	68	2.5				218	0.8	140	.....	1.2
Montreal.....	Montreal General.....	515.00	117	4.4	180	2.8	1.7	1,059	0.5	177	.....	2.9
Montreal.....	Royal Victoria.....	604.23	149	4.0	243	2.5	1.5	1,007	0.6	190	.....	3.2
Montreal.....	St. Mary's.....	189.91	34	5.6	87	2.3	1.6	300	0.6	139	.....	1.4
Montreal.....	Catherine Booth Mothers'	36.37	7	5.2				35	1.0	23	.....	1.6
Montreal.....	Hôpital Général de la Miséricorde.....	68.03	7	9.7	30	2.3	1.8	73	0.9	25	.....	2.7
Montreal.....	The Woman's General.....	154.33	24	6.4	44	3.5	2.3	101	1.5	52	.....	2.9
Montreal.....	Children's Memorial.....	194.63	44	4.4	54	3.6	2.0	282	0.7	99	.....	1.9
Montreal.....	Montreal Children's.....	54.50	24	2.3				41	1.3	19	.....	2.9
Montreal.....	Shriners'.....	60.40	14	4.3				56	1.1	26	.....	2.3
Montreal.....	Alexandra Isolation.....	135.72	26	5.2	37	3.7	2.1	140	0.9	27	.....	5.0
Montreal.....	Hôpital Pasteur.....	277.47	85	3.3	23	12.1	2.6	251	1.1	7	.....	39.6
Montreal.....	Hôpital St-Joseph des Convalescentes.....	115.61	3	38.5				111	1.0	2	.....	57.8
Montreal.....	Montreal Convalescent.....	196.00	25	7.8				97	2.0	85	.....	2.3
Montreal.....	Hôpital St-Jean Baptiste des Convalescentes.....	35.90	0									
Montreal.....	Hôpital du Sacré-Cœur.....	842.98	99	8.5	58	14.5	5.4	467	1.8	36	.....	23.4
Montreal.....	Hôpital Maternité Catholique.....	113.37	12	9.4	6	18.8	6.3	51	2.2	16	.....	7.1
Montreal.....	Hôpital N.-D. de la Merci	542.03	10	54.2	30	18.1	13.6	149	3.6	8	.....	67.8
Montreal.....	Institut du Radium.....	23.06	18	1.3				54	0.4	6	.....	3.8
Montreal.....	Aide à la Femme Ltée.....	94.57	8	11.8				70	1.3	3	.....	31.5
St-Laurent.....	Hôpital N.-D. de l'Espérance.....	24.53	4	6.1				13	1.8	30	.....	0.8
Verdun.....	Hôpital Général de Verdun.....	207.35	78	2.6				176	1.2	81	.....	2.5
Napierville.....	None.											
Nicolet												
Nicolet.....	Hôpital du Christ-Roi.....	28.55	6	4.8				31	0.9	11	.....	2.6

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurses	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
QUEBEC—continued.												
Papineau												
Buckingham.....	Hôpital St-Michel.....	21.35	6	3.4				23	0.9	7	.....	3.0
Pontiac												
Shawville.....	Pontiac Community.....	6.12	5	1.2				10	0.6	.....	6	1.0
Portneuf.....	None.											
Québec												
Québec.....	Jeffrey Hales.....	91.33	22	4.2	43	2.1	1.4	135	0.7	13	.....	7.0
Québec.....	Hôpital de l'Enfant-Jésus.....	341.26	38	9.0	77	4.5	3.0	245	1.4	26	.....	13.0
Québec.....	Hôpital St-Frs d'Assise.....	120.26	19	6.3	28	4.3	4.7	123	0.9	79	.....	1.5
Québec.....	Hôpital du St-Sacrement.....	258.69	53	4.9	76	3.4	2.0	283	0.9	98	.....	2.6
Québec.....	Hôtel-Dieu de Québec.....	305.76	108	3.0	26	11.8	2.3	311	1.0	71	.....	4.3
Québec.....	Hôpital Civique.....	33.18	6	5.5				45	0.7	5	.....	6.6
Québec.....	Hôpital de la Miséricorde.....	98.41	6	16.4				39	2.5	4	.....	24.6
Richelieu.....	None.											
Richmond.....	None.											
Rimouski												
Rimouski.....	Hôpital St-Joseph.....	116.56	23	5.0				105	1.1	10	.....	11.6
Rouville.....	None.											
Saguenay (includes New Quebec)												
Harrington Harbour.....	Grenfell.....	6.89	2	3.4				7	0.9	.....	1	6.9
Havre St-Pierre..	Hôpital St-Jean Eudes..	90.54	9	10.0				42	2.2	.....	2	45.2
Shefford.....	None.											
Sherbrooke												
Sherbrooke.....	Hôpital Général St-Vincent de Paul.....	167.13	37	4.5	64	2.6	1.7	206	0.8	20	.....	8.0
Sherbrooke.....	Sherbrooke Hospital.....	59.01	10	5.9	60	1.0	0.8	89	0.7	12	.....	4.0
Sherbrooke.....	Hôpital Civique.....	1.34						4	0.3	.....	5	0.3
Soulanges.....	None.											
Stanstead.....	None.											
St-Hyacinthe												
St-Hyacinthe....	Hôpital St-Charles.....	74.92	15	5.0	35	2.1	1.5	109	0.7	18	.....	4.1
St-Jean												
St-Jean.....	Hôpital St-Jean.....	57.56	14	4.1	21	2.8	1.6	128	0.5	15	.....	4.0
St-Maurice												
Shawinigan Falls.....	Hôpital Ste-Thérèse.....	37.57	6	6.2				43	0.9	10	.....	3.7
Shawinigan Falls.....	Joyce Memorial.....	20.48	8	2.5				29	0.7	7	.....	2.9
Three Rivers.....	Hôpital St-Joseph.....	122.90	16	7.7	32	4.0	2.6	107	1.1	29	.....	4.2

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurses	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
QUEBEC—continued.												
Temiscamingue												
Noranda.....	Hôpital Youville.....	111.97	15	7.5	.....	.....	.....	68	1.6	19	.....	6.0
Témiscouata												
Rivière-du-Loup.....	Hôpital St-Joseph du Pré-cieux-Sang.....	67.15	15	4.5	27	2.5	1.6	88	0.8	7	.....	9.6
Terrebonne.....	None.											
Vaudreuil.....	None.											
Verchères.....	None.											
Wolfe.....	None.											
Yamaska.....	None.											
ONTARIO												
Addington.....	None.											
Algoma												
Blind River.....	St. Joseph's.....	11.91	5	2.4	.....	.....	.....	9	1.3	.....	4	2.9
Sault Ste-Marie.....	General.....	49.19	12	4.1	27	1.8	1.3	63	0.8	35	.....	1.4
Sault Ste-Marie.....	Plummer Memorial.....	44.01	8	5.5	25	1.8	1.3	55	0.8	23	.....	1.9
Blind River.....	Red Cross.....	3.50	3	1.1	.....	.....	.....	6	0.5	.....	3	1.1
Hawk Jet.....	Red Cross.....	2.55	1	2.5	.....	.....	.....	3	0.8	.....	3	0.8
Hornepayne.....	Red Cross.....	1.69	1	1.7	.....	.....	.....	2	0.8	.....	1	1.7
Richards Landing.....	Red Cross.....	3.59	2	1.3	.....	.....	.....	4	0.8	.....	1	3.6
Thessalon.....	Red Cross.....	6.37	3	2.1	.....	.....	.....	6	1.0	.....	2	3.2
Brant												
Brantford.....	General.....	159.54	27	6.0	78	2.0	1.5	182	0.9	59	.....	3.7
Paris.....	Willett.....	22.06	6	3.6	.....	.....	.....	13	1.7	6	.....	3.7
Bruce												
Kincardine.....	General.....	18.06	5	3.6	.....	.....	.....	11	1.6	.....	15	1.2
Walkerton.....	Co. of Bruce General.....	21.38	9	2.4	.....	.....	.....	18	1.2	.....	29	0.7
Lion's Head.....	Red Cross.....	1.85	1	1.9	.....	.....	.....	2	0.9	.....	1	1.8
Carleton												
Ottawa.....	Civic.....	550.28	72	7.6	185	2.9	2.1	557	1.0	115	.....	4.8
Ottawa.....	General.....	311.23	99	3.1	60	5.2	2.0	356	0.9	58	.....	5.3
Ottawa.....	Salvation Army Woman's.....	101.62	43	2.4	.....	.....	.....	70	1.4	28	.....	3.6
Ottawa.....	Protestant Children's.....	28.33	8	3.5	.....	.....	.....	31	0.9	30	.....	0.9
Ottawa.....	Strathcona Isolation.....	50.89	9	5.7	17	3.0	2.0	61	0.8	22	.....	2.3
Cochrane												
Cochrane.....	Lady Minto.....	43.55	15	2.9	.....	.....	.....	29	1.5	.....	3	14.5
Hearst.....	St. Paul's.....	35.64	10	3.5	.....	.....	.....	27	1.3	.....	3	11.8
Iroquois Falls.....	Anson General.....	22.80	8	2.8	.....	.....	.....	15	1.5	4	.....	5.7
Matheson.....	Rosedale War Memorial.....	8.61	4	2.1	.....	.....	.....	9	0.9	.....	3	2.8
South Porcupine.....	Porcupine General.....	28.90	12	2.4	.....	.....	.....	23	1.2	20	.....	1.4
Timmins.....	St. Mary's.....	89.78	23	3.9	40	2.2	1.4	117	0.8	52	.....	1.7
Dufferin												
Orangeville.....	Lord Dufferin.....	26.92	11	2.4	.....	.....	.....	19	1.4	.....	19	1.4

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurses	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
ONTARIO—continued												
Dundas.....	None.											
Durham												
Bowmanville.....	General.....	15.93	4	4.0								
Port Hope.....	Port Hope.....	23.56	10	2.4								
Elgin												
St. Thomas.....	Memorial.....	95.10	30	3.1	27	3.5	1.6	116	0.8	19		5.0
Essex												
Windsor.....	Grace.....	99.55	5	20.0	57	1.8	1.6	112	0.9	77		1.2
Windsor.....	Hotel-Dieu.....	128.31	13	9.9	95	1.3	1.2	179	0.7	85		1.5
Windsor.....	Metropolitan.....	97.74	57	1.7				115	0.8	132		0.7
Windsor.....	Isolation.....	6.28	6	1.1				22	0.3	11		0.6
Windsor.....	Convalescent.....	5.73	1	5.7				5	1.1		10	0.6
Frontenac												
Kingston.....	Hotel-Dieu.....	122.63	31	4.0	85	1.4	1.0	173	0.7	44		2.8
Kingston.....	General.....	223.79	36	6.2	111	2.0	1.5	317	0.7	75		3.0
Glengarry.....	None.											
Grenville.....	None.											
Grey												
Durham.....	Red Cross Memorial.....	11.88	4	2.9				7	1.7		7	1.7
Hanover.....	Memorial.....	9.95	4	2.5				8	1.1		12	0.8
Owen Sound.....	General.....	58.38	12	4.3	35	1.7	1.2	80	0.7	45		1.3
Haldimand												
Dunnville.....	War Memorial.....	12.98	7	1.8				11	1.2		10	1.3
Haliburton												
Haliburton.....	Red Cross.....	2.39	1	2.4				2	1.2		2	1.2
Wilberforce.....	Red Cross.....	(x)	1					2			0	
Halton												
Burlington.....	Children's Convalescent..	5.37	2	2.7				4	1.3		4	1.3
Hastings												
Belleville.....	General.....	132.41	27	4.9	54	2.5	1.6	152	0.8	20		6.1
Bancroft.....	Red Cross.....	6.84	3	2.3				5	1.1		6	1.1
Coe Hill.....	Red Cross.....	1.17	1	1.2				3	0.4		2	0.6
Huron												
Clinton.....	Clinton Public.....	15.24	4	3.8				16	1.0		13	1.2
Goderich.....	Alexandra Gen. and Ma- rine.....	26.12	15	1.7				26	1.0	9		2.9
Seaforth.....	Scott Memorial.....	15.92	6	2.3				17	0.9		11	1.4
Wingham.....	General.....	8.90	5	1.7				9	0.9	12		0.8

(x) Less than one patient per day.

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurses	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
ONTARIO—continued												
Kenora												
Kenora	General	30.84	6	5.1	10	3.0	2.0	27	1.1	8	3.8	
Kenora	St. Joseph's	33.12	8	4.1				27	1.3	10	3.1	
Sioux Lookout	General	13.06	4	3.2				10	1.3	4	3.2	
Dryden	Red Cross	17.21	4	4.3				7	2.3	3	5.7	
Quibell	Red Cross	(x)	1					2		0		
Redditt	Red Cross	(x)	1					2		0		
Kent												
Chatham	General	78.19	16	4.9	62	1.2	1.0	115	0.7	22		3.9
Chatham	St. Joseph's	74.84	10	7.5	54	1.4	1.2	89	0.9	20		3.7
Lambton												
Petrolia	Charlotte Eleanor Englehart	23.28	12	1.8				22	1.0	12		2.0
Sarnia	General	85.67	8	10.7	60	1.4	1.3	100	0.8	28		3.0
Lanark												
Almonte	Rosamond Memorial	17.87	5	3.6				10	1.8	11		1.7
Perth	Great War Memorial	37.66	20	1.9				32	1.2	12		3.1
Smiths Falls	Public	40.37	23	1.6				35	1.1	13		3.0
Smiths Falls	St. Francis	24.34	13	1.8				31	0.8	11		2.2
Leeds												
Brockville	General	76.01	9	8.4	59	1.3	1.1	93	0.8	24		3.1
Brockville	St. Vincent de Paul	45.27	11	4.1	23	1.7	1.3	58	0.8	21		2.1
Lennox	None.											
Lincoln												
Niagara-on-the-Lake	Cottage	8.63	4	2.1				9	0.9	7		1.2
St. Catharines	General	112.51	17	6.6	37	3.0	2.1	142	0.8	23		4.9
Manitoulin												
Mindemoya	Red Cross	8.22	4	2.0				7	1.2	2		4.1
Middlesex												
London	St. Joseph's	193.33	30	6.4	114	1.7	1.3	238	0.8	180		1.1
London	Victoria	346.66	33	10.5	203	1.7	1.5	438	0.8	60		5.8
Strathroy	General	27.01	6	4.5	14	1.9	1.4	30	0.9	7		3.8
Muskoka												
Bracebridge	Red Cross	21.62	6	3.6				12	1.8	4		5.4
Nipissing												
Mattawa	General	26.04	6	4.3				22	1.2	2		13.0
North Bay	Queen Victoria	32.49	14	2.3				29	1.1	17		2.0
North Bay	St. Joseph's	60.75	9	6.7	25	2.4	1.8	47	1.3	18		3.4
Sturgeon Fal's	St. Jean de Brebeuf	26.70	6	4.4				17	1.5	3		8.9
Whitney	Red Cross	(x)	1					2		1		
Norfolk												
Simcoe	Norfolk General	50.60	28	1.8				49	1.0	20		2.5

(x) Less than one patient per day.

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurses	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
ONTARIO—continued												
Northumberland												
Cobourg	General	25.98	12	2.2				25	1.0	8		3.3
Ontario												
Oshawa	General	76.98	17	4.6	36	2.1	1.4	93	0.8	36		2.1
Oxford												
Ingersoll	Alexandra	24.35	10	2.4				16		9		2.7
Tillsonburg	Soldier's Memorial	32.05	16	2.0				28		7		4.6
Woodstock	General	64.79	12	5.4	44	1.5	1.2	89	0.7	30		2.2
Parry Sound												
Parry Sound	General	31.49	7	4.5				16	2.0		6	5.3
Parry Sound	St. Joseph's	39.20	5	7.8				30	1.5		11	3.5
Port Loring	Red Cross	1.99	1	1.9				2	0.9		0	
Peel												
Brampton	Peel Memorial	30.33	13	2.3				27	1.1	12		2.5
Perth												
Listowel	Memorial	11.84	4	2.9				7	1.6		8	1.5
Stratford	General	76.51	9	8.5	43	1.8	1.5	103	0.7	32		2.4
Peterborough												
Peterborough	Nicholls	82.42	21	4.0	38	2.2	1.4	103	0.8	45		1.8
Peterborough	St. Joseph	60.66	10	6.0	35	1.7	1.4	71	0.9	37		1.6
Apsley	Red Cross	1.53	1	1.5				2	0.7		1	1.5
Prescott												
Hawkesbury	Notre-Dame	16.10	2	8.0				19	0.8	15		1.1
Prince Edward												
Picton	P. E. County	30.70	4	7.6	13	2.2	1.8	25	1.2	17		2.0
Rainy River												
Atikokan	Red Cross	(x)	1					2			0	
Rainy River	Red Cross	8.97	3	2.9				6	1.5		2	4.4
Emo	Red Cross	6.82	4	1.7				6	1.1		1	6.8
Renfrew												
Pembroke	Cottage	40.69	14	2.0				28	1.5	9		4.5
Pembroke	General	59.63	12	5.0	31	2.0	1.4	83	0.7	22		2.7
Renfrew	Victoria	36.86	5	7.3	19	2.0	1.4	35	1.0	18		2.0
Russell	None											
Simcoe												
Alliston	Stevenson Memorial	22.36	9	2.4				17	1.3		10	2.3
Barrie	Royal Victoria	56.58	7	8.1	33	1.7	1.4	41	1.4	12		5.5
Collingwood	General and Marine	48.73	6	8.1	28	1.7	1.4	60	0.8	17		2.9
Midland	St. Andrews	34.36	4	8.5	25	1.3	1.2	36	0.9	13		2.7
Orillia	Soldiers' Memorial	61.32	11	5.5	32	1.9	1.4	68	0.9	21		3.0
Penetanguishene	General	8.72	4	2.2				8	1.1		7	1.2
Collingwood	Blue Mt. Convalescent	10.25	2	5.1				8	1.3		1	10.2

(x) Less than one patient per day.

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurses	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
ONTARIO—continued												
Stormont												
Cornwall	General	62.87	11	5.7	39	1.6	1.2	82	0.7	27	.....	2.3
Cornwall	Hotel-Dieu	107.40	19	5.6	42	2.5	1.7	117	0.9	26	.....	4.1
Sudbury												
Chapleau	Lady Minto	19.70	44	3.9	.....	.....	13	1.5	.....	3	.....	6.5
Sudbury	St. Joseph's	157.79	25	6.3	65	2.5	1.5	183	0.8	62	.....	2.5
Espanola	Red Cross	12.53	3	4.1	.....	.....	6	1.9	.....	2	.....	6.2
Foleyet	Red Cross Car	(x)	1	.....	.....	.....	2	.....	.....	1	.....	.....
Thunder Bay												
Fort William	McKellar General	170.46	44	3.9	51	3.3	1.8	149	1.2	.....	31	5.5
Port Arthur	General	93.02	20	4.6	35	2.7	1.7	97	0.9	25	.....	3.7
Port Arthur	St. Joseph's	131.32	18	7.2	75	1.7	1.4	108	1.2	39	.....	3.7
Fort William	Isolation	.....	No Rep	.....	.....	.....	.....	.....	.....	.....	0	.....
Kakabeka Falls	Red Cross	1.61	1	1.6	.....	.....	.....	2	0.8	.....	0	.....
Nakina	Red Cross	1.26	1	1.2	.....	.....	.....	2	0.6	.....	1	1.3
Jellicoe	Red Cross	2.55	1	2.5	.....	.....	.....	3	0.8	.....	1	2.5
Timiskaming												
Cobalt	Municipal	6.56	3	2.2	.....	.....	.....	9	0.7	.....	4	1.6
Hawleybury	Misericordia	20.77	6	3.5	.....	.....	.....	14	1.5	8	.....	2.6
Englehart	Red Cross	9.99	2	4.9	.....	.....	.....	6	1.6	.....	3	3.3
Kirkland Lake	Red Cross	88.28	35	2.6	.....	.....	.....	60	1.4	.....	22	4.0
New Liskeard	Red Cross	12.68	4	3.2	.....	.....	.....	7	1.8	.....	6	2.1
Victoria												
Lindsay	Ross Memorial	49.43	10	4.9	27	1.8	1.3	52	0.9	11	.....	4.5
Lindsay	Isolation	.....	No Rep	.....	.....	.....	.....	.....	.....	.....	.....	.....
Waterloo												
Galt	General	57.67	35	1.6	.....	.....	.....	66	0.8	29	.....	2.0
Kitchener	Kitchener-Waterloo	84.09	19	4.4	73	1.1	0.9	138	0.6	67	.....	1.2
Kitchener	St. Mary's	79.51	16	4.8	59	1.3	1.0	119	0.7	56	.....	1.4
Welland												
Fort Erie	Douglas Memorial	24.52	11	2.2	.....	.....	.....	28	0.9	10	.....	2.4
Niagara Falls	General	75.86	10	7.5	43	1.7	1.5	57	1.3	2	.....	37.8
Welland	Welland Co. General	57.78	31	1.8	.....	.....	.....	50	1.0	25	.....	2.3
Wellington												
Fergus	Groves Memorial	14.27	7	2.0	.....	.....	.....	15	0.9	.....	10	1.4
Guelph	General	70.77	8	8.8	59	1.2	1.0	114	0.7	25	.....	2.8
Guelph	St. Joseph's	77.51	19	4.1	57	1.3	1.0	115	0.7	28	.....	2.8
Mount Forest	Louisa Marshall	7.68	4	1.9	.....	.....	.....	9	0.8	.....	5	1.5
Palmerston	General	8.87	4	2.2	.....	.....	.....	6	1.5	.....	7	1.2
Wentworth												
Hamilton	General	522.87	110	4.9	199	2.6	1.8	704	0.8	110	.....	4.9
Hamilton	St. Joseph's	150.16	35	4.3	96	1.5	1.1	203	0.7	80	.....	1.9

(x) Less than one patient per day.

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurses	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
ONTARIO—continued												
York												
Newmarket.....	York County.....	31.88	12	2.6				20	1.1		21	1.1
Toronto.....	Lockwood Clinic.....	21.68	6	3.6				42	0.5	9		2.4
Toronto.....	Mount Sinai.....	90.81	30	3.0				80	1.0	90		1.0
Toronto.....	St. Joseph's.....	277.77	57	4.0	135	2.0	1.4	379	0.7	72		4.0
Toronto.....	St. Michael's.....	536.37	99	5.4	216	2.5	1.7	680	0.8	91		5.9
Toronto.....	Toronto East General.....	154.61	28	5.4	71	2.1	1.5	189	0.8	45		3.4
Toronto.....	Toronto General.....	1,021.39	186	5.5	314	3.2	2.0	1,306	0.8	144		7.0
Toronto.....	Toronto Western.....	481.66	112	4.3	174	2.7	1.8	674	0.7	198		2.5
Toronto.....	Wellesley.....	90.70	13	7.0	85	1.1	1.0	216	0.5		125	0.8
Toronto.....	S. A. Grace.....	63.16	15	4.2	22	2.8	1.7	70	0.9	15		4.2
Toronto.....	Women's College.....	137.44	24	5.6	73	1.9	1.4	210	0.7	48		3.0
Toronto.....	Hosp. for Sick Children.....	366.49	79	4.6	170	2.1	1.4	543	0.7	83		4.4
Toronto.....	Riverdale Isolation.....	70.24	20	3.0				82	0.9	10		7.0
Toronto.....	Civitan Children's Camp.....	2.61	1	2.6				3	0.8		1	2.6
Toronto.....	I.O.D.E. Convalescent.....	73.85	6	12.3				52	1.2		8	9.2
Toronto.....	Hillcrest Convalescent.....	25.41	4	6.3				13	1.7		70	0.3
Newtonbrook.....	St. John's Convalescent.....	56.16	13	4.2				41	1.3	33		1.7
Toronto.....	Mothercraft Centre.....	7.95	3	2.9	21	0.4	0.3	34	0.3	4		1.9
District of Patricia.....	None.											
MANITOBA												
Division No. 1												
Steinbach.....	Bethesda.....	23.71	7	3.4				14	1.7		4	5.7
Vita.....	General.....	14.97	4	3.7				12	1.2		4	3.7
Division No. 2												
Altona.....	Bethania.....	10.10	3	3.3				9	1.1		7	1.4
Morden.....	Freemason's.....	20.31	4	5.1	14	1.4	1.1	28	0.7		7	2.9
Winkler.....	Bethel.....	16.04	4	4.0				11	1.5		2	8.0
Division No. 3.....	None.											
Division No. 4												
Deloraine.....	Memorial.....	15.11	5	3.0				9	1.7		4	3.8
Division No. 5												
Pine Falls.....	Pine Falls.....	15.87	4	3.9				12	1.3	6		2.6
Division No. 6												
Carman.....	General.....	25.56	4	6.4	8	3.2	2.1	21	1.2		11	2.4
Portage la Prairie.....	General.....	49.98	3	16.6	26	1.9	1.7	50	0.9	7		7.1
St. Boniface.....	St. Boniface.....	434.51	63	6.9	189	2.3	1.7	524	0.8	165		2.6
Winnipeg.....	Concordia.....	23.58	5	4.7				17	1.4		15	1.6
Winnipeg.....	Grace.....	194.98	15	12.9	66	2.9	2.4	108	1.8	105		1.8
Winnipeg.....	Misericordia.....	199.10	12	16.6	123	1.6	1.5	261	0.7	101		1.9
Winnipeg.....	St. Joseph's.....	78.13	11	7.1	24	3.3	2.2	88	0.9	32		2.5
Winnipeg.....	Victoria.....	90.75	8	11.3	43	2.1	1.8	83	1.1	60		1.5
Winnipeg.....	General.....	560.94	100	5.6	208	2.7	1.8	658	0.8	76		7.4
Winnipeg.....	Children's.....	93.38	22	4.2	45	2.1	1.4	146	0.6	58		1.6
Winnipeg.....	Municipal.....	58.17	38	1.5	29	2.0	0.8	182	0.3		11	5.3
St. Boniface.....	St. Roche.....	59.27	8	7.4	10	5.9	3.3	59	1.0	14		4.2
Winnipeg.....	Convalescent.....	33.13	2	16.5				7	4.7		2	16.5
Division No. 7												
Brandon.....	General.....	125.00	11	11.3	76	1.6	1.4	126	1.0	18		6.9

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurse	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
MANITOBA—continued												
Division No. 8												
Souris.....	Souris & Glenwood Memorial.....	15.13	4	3.8	9	1.7	1.2	18	0.8	.....	4	3.8
Virden.....	Virden.....	12.17	8	1.5	.....	.....	.....	15	0.8	.....	5	2.4
Division No. 9												
Selkirk.....	General.....	37.37	3	12.4	16	2.3	2.0	29	1.3	4	.....	9.3
Teulon.....	Hunter.....	11.34	4	2.8	.....	.....	.....	12	0.9	.....	5	2.3
Division No. 10												
Gladstone.....	General.....	9.74	3	3.2	.....	.....	.....	6	1.6	.....	4	2.4
Neepawa.....	General.....	19.10	4	4.8	12	1.6	1.2	29	0.6	.....	6	3.2
Division No. 11												
Birtle.....	St. Mary's.....	9.53	1	9.5	.....	.....	.....	7	1.4	.....	1	9.5
Hamiaota.....	General.....	6.14	2	3.0	.....	.....	.....	4	1.5	.....	7	0.9
Minnedosa.....	Lady Minto.....	10.03	3	3.3	.....	.....	.....	7	1.4	.....	8	1.2
Shoal Lake.....	Municipal.....	8.71	3	2.9	.....	.....	.....	7	1.2	.....	3	4.1
Division No. 12												
Eriksdale.....	E. M. Crowe.....	10.38	4	2.6	.....	.....	.....	8	1.3	.....	4	2.6
Gimli.....	Johnson Memorial.....	12.41	2	6.2	.....	.....	.....	10	1.2	.....	3	4.1
Division No. 13												
Dauphin.....	General.....	60.50	12	5.0	29	2.1	1.5	62	0.9	10	.....	6.0
Ethelbert.....	General.....	5.44	2	2.7	.....	.....	.....	7	0.7	.....	3	1.8
Ste Rose du Lac.....	Ste Rose.....	24.75	6	4.1	.....	.....	.....	25	1.0	.....	2	12.3
Winnipegosis.....	Crerar.....	9.40	1	9.4	.....	.....	.....	7	1.4	.....	3	3.1
Division No. 14												
Grand View.....	General.....	5.78	2	2.9	.....	.....	.....	4	1.4	.....	1	5.7
Russell.....	Sacred Heart.....	25.27	10	2.5	.....	.....	.....	19	1.3	.....	9	2.8
Division No. 15												
Swan River.....	Swan River.....	11.37	3	3.8	.....	.....	.....	9	1.2	.....	3	3.8
Division No. 16												
Flin-Flon.....	General.....	23.57	9	2.6	.....	.....	.....	20	1.1	.....	7	3.4
The Pas.....	St. Anthony's.....	50.73	8	6.3	14	3.6	2.3	52	0.9	6	.....	8.4
SASKATCHEWAN												
Division No. 1												
Arcola.....	Brock Union.....	8.44	4	2.1	.....	.....	.....	7	1.2	.....	4	2.1
Bienfait.....	Community.....	7.04	4	1.7	.....	.....	.....	9	0.8	.....	2	3.5
Estevan.....	St. Joseph's.....	35.26	11	3.2	.....	.....	.....	33	1.1	.....	8	4.4
Lampman.....	Union.....	8.16	3	2.7	.....	.....	.....	8	1.0	.....	3	2.7
Oxbow.....	Union.....	5.90	3	1.9	.....	.....	.....	5	1.2	.....	4	1.5
Division No. 2												
Bengough.....	Municipal.....	5.28	2	2.6	.....	.....	.....	5	1.0	.....	1	5.2
Weyburn.....	General.....	33.41	12	2.8	.....	.....	.....	22	1.5	4	.....	8.3

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurses	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
SASKATCHEWAN —continued												
Division No. 3												
Assiniboia	Union	14.10	5	2.8				11	1.3	3	4.7	
Gravelbourg	St. Joseph's	19.74	7	2.8				28	0.7		3.9	
Kineaid	Community	7.44	4	1.8				6	1.2	2	3.7	
Ponteix	Gabriel	8.02	4	2.0				10	0.8	2	4.0	
Vanguard	Vanguard	5.01	2	2.5				6	0.8	2	2.5	
Rockglen	Red Cross	4.89	2	2.4				3	1.6	1	4.8	
Division No. 4												
Frontier	Community	2.75	2	1.3				4	0.7	3	0.9	
Maple Creek	General	21.62	9	2.4				17	1.3	2	10.3	
Shaunavon	Union	23.28	8	2.9				19	1.2	3	7.7	
Bracken	Red Cross	3.78	2	1.8				3	1.2	1	3.7	
Division No. 5												
Broadview	St. Michael's	8.25	3	2.7				10	0.8	3	2.7	
Melville	St. Peter's	12.51	5	2.5				9	1.4	6	2.1	
Moosomin	General	12.25	4	3.0				9	1.4	8	1.5	
Whitewood	Community	7.31	4	1.8				7	1.0	3	2.4	
Division No. 6												
Indian Head	Union	16.18	6	2.7				3	5.3	4	4.0	
Regina	General	253.07	58	4.3	110	2.3	1.5	344	0.7	86	2.9	
Regina	Grey Nun's	225.75	17	13.3	114	1.9	1.7	276	0.8	64	3.5	
Rouleau	Community	2.78	2	1.3				2	1.3	2	1.3	
Regina	Jr. Red Cross	15.61	3	5.2				8	1.9	8	1.9	
Division No. 7												
Central Butte	Enfield Victorian	4.73	3	1.5				4	1.2	2	2.3	
Herbert	Community	7.05	3	2.3				7	1.0	3	2.3	
Moose Jaw	General	141.04	12	11.7	74	1.9	1.6	137	1.0	22	6.4	
Moose Jaw	Providence	67.75	4	16.9	37	1.8	1.7	63	1.1	21	3.2	
Tuxford	Community	1.29	2	0.6				3	0.4	1	1.2	
Division No. 8												
Cabri	Union	18.80	6	3.1				10	1.8	2	9.4	
Eatonia	Union	8.59	4	2.1				8	1.0	3	2.8	
Elrose	Community	4.75	2	2.3				4	1.2	3	1.5	
Eston	Union	21.91	7	3.1				16	1.4	2	10.9	
Gull Lake	Union	13.63	5	2.7				10	1.3	2	6.8	
Leader	Leader Town	13.52	5	2.7				10	1.3	1	13.5	
Division No. 9												
Canora	Hugh Waddell	33.34	7	4.7				28	1.2	6	5.5	
Kamsack	King Edward	13.80	4	3.4				10	1.3	10	1.3	
Yorkton	Queen Victoria	79.01	14	5.6	27	2.9	1.9	62	1.3	8	9.9	
Division No. 10												
Foam Lake	Foam Lake	7.87	4	1.9				8	0.9	5	1.5	
Lestock	St. Joseph's	5.70	3	1.9				7	0.8	4	1.2	
Wadena	Union	39.84	10	4.0				20	2.0	4	10.0	
Division No. 11												
Davidson	Union	5.34	4	1.3				7	7.8	2	2.6	
Nokomis	Community	4.36	2	2.2				5	8.7	6	0.7	
Saskatoon	Saskatoon City	237.05	39	6.1	114	2.1	1.5	302	0.8	76	3.1	
Saskatoon	St. Paul's	128.70	25	5.1	125	1.0	0.9	253	0.5	70	1.8	
Watrous	Manitou	9.04	4	2.3				10	0.9	5	1.8	

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurses	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
SASKATCHEWAN —continued.												
Division No. 12												
Biggar.....	St. Margaret's.....	16.14	4	4.0	.....	.....	15	1.1	.....	2	8.0
Milden.....	Community.....	7.98	3	2.6	.....	.....	6	1.3	.....	3	2.6
Rosetown.....	Union.....	36.78	11	3.3	.....	.....	25	1.5	4	.....	9.2
Division No. 13												
Dodsland.....	Community.....	10.01	3	3.3	.....	.....	7	1.4	.....	1	10.0
Kerrobert.....	Union.....	15.15	5	3.0	.....	.....	9	1.7	.....	3	5.0
Kindersley.....	Union.....	25.96	8	3.2	.....	.....	16	1.6	.....	3	8.6
Macklin.....	St. Joseph.....	26.90	8	3.4	.....	.....	29	0.9	.....	4	6.7
Scott.....	Municipal.....	7.50	3	2.5	.....	.....	9	0.8	.....	3	2.5
Unity.....	Union.....	20.33	5	4.0	.....	.....	11	1.8	.....	2	10.1
Wilkie.....	Union.....	11.00	4	2.7	.....	.....	8	1.4	.....	3	3.6
Division No. 14												
Carrot River.....	Mitchell Memorial.....	3.10	2	1.5	.....	.....	4	0.8	.....	1	3.1
Kelvington.....	Union.....	10.78	4	2.7	.....	.....	8	1.3	.....	2	5.3
Melfort.....	Lady Minto.....	24.41	9	2.7	.....	.....	18	1.3	4	.....	6.1
Nipawin.....	Lady Grey.....	17.66	5	3.5	.....	.....	9	1.9	.....	4	4.4
Rose Valley.....	Union.....	15.13	4	3.8	.....	.....	8	1.9	.....	1	15.1
Tisdale.....	Ste Therese.....	47.53	8	5.9	.....	.....	36	1.3	6	.....	7.9
Carragana.....	Red Cross.....	4.11	2	2.0	.....	.....	3	1.3	.....	3	1.3
Endeavor.....	Red Cross.....	1.58	1	1.5	.....	.....	2	0.8	.....	1	1.5
Hudson Bay Jct.	Red Cross.....	6.76	3	2.2	.....	.....	4	1.7	.....	2	3.3
Division No. 15												
Birch Hills.....	General.....	9.31	4	2.3	.....	.....	9	1.0	.....	1	9.3
Cudworth.....	St. Michael's.....	13.19	4	3.3	.....	.....	14	0.9	.....	3	4.3
Humboldt.....	St. Elizabeth's.....	46.46	10	4.6	25	1.8	1.3	56	0.8	4	11.6
Kinistino.....	District.....	6.33	4	1.5	.....	.....	7	0.9	.....	2	3.1
Prince Albert.....	Holy Family.....	89.96	15	5.9	50	1.8	1.4	118	0.7	20	4.5
Prince Albert.....	Victoria.....	65.19	9	7.2	24	2.7	2.0	60	1.1	12	5.4
Rosthern.....	Community.....	6.53	3	2.1	.....	.....	8	0.8	.....	3	2.1
Smeaton.....	.....	5.08	2	2.5	.....	.....	5	1.0	.....	2	2.5
Wakaw.....	Anna Turnbull.....	15.91	4	3.9	.....	.....	11	1.4	.....	3	5.3
Paddockwood.....	Red Cross.....	2.57	2	1.2	.....	.....	3	0.8	.....	1	2.5
Division No. 16												
Hafford.....	Hafford.....	8.89	4	2.2	.....	.....	10	0.8	.....	1	8.8
North Battleford.....	Notre Dame.....	52.66	16	3.3	.....	.....	42	1.2	9	.....	5.8
Rabbit Lake.....	Rose Gill.....	11.03	3	3.6	.....	.....	6	1.8	.....	2	5.5
Division No. 17												
Edam.....	Lady Minto.....	10.28	4	2.5	.....	.....	9	1.1	.....	1	10.2
Lashburn.....	District Union.....	20.74	7	2.9	.....	.....	12	1.7	.....	5	4.1
Lloydminster.....	United Municipal.....	54.58	15	3.6	.....	.....	30	1.8	4	.....	13.6
Meadow Lake.....	Meadow Lake.....	24.15	4	6.0	.....	.....	12	2.0	.....	2	12.0
Loon Lake.....	Red Cross.....	17.60	5	3.5	.....	.....	10	1.8	.....	1	17.6
Division No. 18												
Ile a la Crosse.....	St. Joseph's.....	10.42	4	2.6	.....	.....	11	0.9	.....	1	10.4
Pierceland.....	Red Cross.....	4.50	2	2.2	.....	.....	3	1.5	.....	3	1.5
ALBERTA												
Division No. 1												
Medicine Hat.....	Medicine Hat General.....	73.84	12	6.1	31	2.4	2.2	81	0.9	10	7.3
Medicine Hat.....	Medicine Hat Isolation.....	0.39	1	0.0	0.0	1	0.0	4	0.0

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurses	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
ALBERTA—continued												
Division No. 2												
Cardston	Cardston Municipal	27.04	9	3.0				15	1.8	4	6.7	
Claresholm	Claresholm	19.46	6	3.2				12	1.6	6	3.2	
Coleman	Miners' Union	8.13	3	2.7				6	1.6	3	2.7	
Lethbridge	Galt	94.66	19	4.9	37	2.6	1.7	100	0.9	30	3.2	
Lethbridge	St. Michael's	81.57	32	2.5				86	0.9	31	2.6	
Lethbridge	Isolation	0.69	1	0.8				2	0.3	1	0.6	
MacLeod	MacLeod General	10.56	4	2.6				9	1.2	3	3.5	
Pincher Creek	St. Vincent's	11.20	3	3.7				10	1.1	2	5.6	
Division No. 3												
Bassano	Bassano Municipal	15.25	6	2.5				10	1.5	2	7.6	
Empress	Empress Cottage	10.76	4	2.7				8	1.3	2	5.3	
Division No. 4												
Carmangauay	Little Bow Municipal	10.76	3	3.5				6	1.8	2	5.3	
High River	High River Municipal	30.38	10	3.0				17	1.8	3	10.1	
Vulcan	Vulcan Municipal	12.80	5	2.5				10	1.2	4	3.2	
Division No. 5												
Cereal	Esler	6.16	2	3.0				5	1.2	1	6.1	
Hanna	Hanna Municipal	24.73	9	2.7				22	1.1	2	12.3	
Division No. 6												
Banff	Banff Mineral Springs	27.74	5	5.5				31	0.9	5	5.5	
Canmore	Canmore	7.81	2	3.9				6	1.3	5	1.5	
Calgary	General	201.27	21	9.6	130	1.6	1.3	251	0.8	104	1.9	
Calgary	Holy Cross	255.90	32	7.9	151	1.7	1.4	295	0.8	102	2.5	
Calgary	S. A. Grace	22.54	6	3.7				12	1.9	6	3.7	
Calgary	Jr. Red Cross	38.75	8	4.6				21	1.7	9	4.1	
Calgary	Isolation	20.27	3	6.7				7	2.9	3		
Didsbury	Didsbury	7.90	3	2.6				4	1.9	5	1.6	
Drumheller	Municipal	15.81	4	3.9				8	1.9	5	3.1	
Olds	Olds	75.75	26	2.9				53	1.4	10	7.5	
Trochu	St. Mary's	10.50	4	2.6				8	1.3	4	2.6	
Wayne	Wayne	9.60	3	3.2				14	0.7	6	1.6	
Division No. 7												
Castor	Our Lady of the Rosary	8.95	5	1.8				17	0.5	3	2.9	
Consort	Consort Municipal	13.25	3	4.4				7	1.9	2	6.6	
Coronation	Coronation General	7.66	3	2.5				6	1.3	1	7.6	
Galahad	St. Joseph's	12.73	4	3.2				11	1.1	3	4.2	
Hardisty	St. Anne's	12.91	4	3.3				13	0.9	4	3.2	
Killam	Killam General	6.66	4	1.6				8	0.8	3	2.2	
Provost	Provost Municipal	16.11	4	4.0				12	1.3	3	5.3	
Viking	Viking Municipal	16.58	5	3.5				11	1.5	2	8.2	
Wainwright	Wainwright Municipal	18.00	5	3.6				11	1.6	4	4.5	
Division No. 8												
Camrose	St. Mary's	32.11	18	1.8				33	0.9	9	3.6	
Daysland	Providence	4.77	3	1.6				12	0.4	2	2.3	
Innisfail	Innisfail Municipal	25.53	7	3.6				18	1.4	4	6.4	
Lacombe	Lacombe & Dist. Community	20.17	7	2.8				13	1.5	3	6.7	
Red Deer	Red Deer Municipal	28.29	7	4.0				17	1.7	9	3.1	
Stettler	Stettler Municipal	32.47	7	4.6				17	1.8	11	2.9	
Wetaskiwin	Wetaskiwin Community	27.93	9	3.1				16	1.7	5	5.6	

(x) Doctors of Calgary General attend patients.

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurses	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
ALBERTA—continued												
Division No. 9												
Bentley	Bentley Community	7.65	3	2.5				5	1.5		1	7.6
Eckville	Medicine Valley Community	5.47	2	2.7				4	1.3		1	5.4
Jasper	Seton	5.33	3	1.7				8	0.7		2	2.6
Nordegg	Nordegg General	4.62	2	2.3				5	0.9		2	2.3
Rimbeay	St. Paul's	13.74	4	3.4				12	1.1		2	6.8
Rocky Mountain House	Rocky Mountain House	13.55	4	4.3				12	1.1		2	6.7
Division No. 10												
Islay	Islay	8.45	3	2.8				6	1.4		2	4.2
Lamont	Lamont Public	49.40	4	12.3	40	1.1	1.1	74	0.7	4		12.3
Manville	Manville Municipal	9.81	3	3.2				7	1.4		5	1.9
Marwayne	Marwayne	5.44	2	2.7				3	1.8		1	5.4
Mundare	Mundare General	13.79	3	4.5				13	1.1		4	4.4
Myrnam	Myrnam	8.71	3	2.9				7	1.2		1	8.7
Vegreville	Vegreville General	52.81	7	7.5	29	1.8	1.5	56	0.9	7		7.5
Vermillion	Vermillion	29.88	6	4.9				14	2.1		4	7.4
Willingdon	Willingdon	17.73	6	2.9				14	1.2		3	5.9
Division No. 11												
Edmonton	General	201.67	38	5.3	90	2.2	1.6	233	0.9	90		2.2
Edmonton	Misericordia	150.08	15	10.0	96	1.5	1.3	234	0.7	82		1.8
Edmonton	Royal Alexandra	355.21	95	3.8	131	2.7	1.6	428	0.8	122		2.9
Edmonton	University of Alberta	206.98	54	3.8	109	1.9	1.3	322	0.6	73		2.8
Edmonton	Beulah Rescue Home	15.84	2	7.9				11	1.4		16	0.9
Edmonton	St. Joseph's	67.85	6	11.3				29	2.3		28	2.4
Division No. 12												
Edson	St. John's	20.28	5	4.0				13	1.5		4	5.0
Division No. 13												
Bonnyville	K. H. Prettie	7.23	3	2.4				9	0.8		1	7.2
Bonnyville	St. Louis	16.33	4	4.1				13	1.2		2	8.1
Cold Lake	John Neil	12.02	4	3.0				9	1.3		2	6.0
Elk Point	Municipal	27.84	5	5.6				18	1.5		3	9.3
St. Paul	Ste. Therese	22.37	5	4.5				27	0.9		2	11.1
Vilna	Our Lady's	7.11	4	1.8				9	0.8		1	7.1
Division No. 14												
Athabasca	Municipal	17.28	7	2.4				19	0.9		1	17.2
Barhead	Barrhead	23.31	5	4.7				12	1.9		3	7.8
Lac La Biche	St. Catharine's	20.78	5	4.1				14	1.4		4	5.2
Radway	St. Joseph's'	16.59	3	5.5				14	1.2		1	16.5
Smoky Lake	Geo. McDougall Memorial	17.16	6	2.8				18	0.9		2	8.5
Westlock	Immaculata	8.08	4	2.0				9	0.9		4	2.0
Division No. 15												
High Prairie	Providence	25.20	6	4.2				20	1.3		2	12.6
McLennan	Sacred Heart	17.52	5	3.5				15	1.2		2	8.8
Peace River	Municipal	12.86	6	2.1				12	1.1	8		1.6
Division No. 16												
Berwyn	Berwyn and District	8.42	4	2.1				8	1.1		4	2.1
Fairview	Fairview Community	7.41	3	2.5				7	1.1		3	2.5
Grand Prairie	Municipal	41.27	11	3.5				20	2.1	6		6.9
Grimshaw	Battle River	5.14	3	1.7				6	0.9		2	2.5
Spirit River	Community	2.67	1	2.6				2	1.3		4	0.7

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

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ALBERTA—continued												
Division No. 17												
Desmarais.....	St. Martin's.....	5.11	1	5.1				4	1.3	1	5.1
Fort McMurray.....	St. Gabriel.....	6.54	2	3.2				9	0.7	1	6.5
Fort Vermillion.....	St. Therese.....	5.63	2	2.8				5	1.1	.....	1	5.6
BRITISH COLUMBIA												
Division No. 1												
Cranbrook.....	St. Eugene.....	53.40	12	4.4	29	1.8	1.3	67	0.8	.....	4	13.3
Fernie.....	Fernie General.....	24.75	7	3.5				14	1.8	.....	3	8.2
Golden.....	Golden General.....	4.59	2	2.3				5	0.9	.....	6	0.8
Ivermere.....	Windermere Dist.....	3.75	2	1.8				5	0.8	.....	2	1.8
Kimberly.....	Kimberly.....	30.41	8	3.8				18	1.6	.....	3	1.6
Michel.....	Michel.....	8.48	3	2.8				6	1.4	.....	2	4.2
Division No. 2												
Creston.....	Creston Valley.....	12.66	5	2.5				10	1.2	.....	2	6.3
Kaslo.....	Victorian of Kaslo.....	8.84	3	2.9				8	1.1	.....	2	4.4
Nakusp.....	Arrow Lakes.....	7.49	3	2.4				6	1.2	.....	2	3.7
Nelson.....	Kootenay Lake.....	67.97	27	2.5				58	1.2	12		5.6
New Denver.....	Slocan Community.....	7.57	3	2.5				7	1.1	.....	3	2.5
Revelstoke.....	Queen Victoria.....	18.77	8	2.3				20	0.9	.....	3	6.0
Rossland.....	Mater Misericordia.....	29.93	8	3.7				24	1.2	15		2.0
Trail.....	Trail-Tadanac.....	75.16	26	2.1				65	1.1	17		4.5
Division No. 3												
Armstrong.....	Armstrong & Spalumcheen.....	10.02	3	3.3				8	1.2	.....	3	3.3
Enderby.....	Enderby General.....	7.71	2	3.8				7	1.1	.....	4	1.9
Grand Forks.....	Grand Forks.....	8.15	1	8.1				4	2.0	.....	3	2.7
Kelowna.....	Kelowna General.....	44.89	19	2.4				39	1.1	9		4.8
Penticton.....	Penticton General.....	41.25	14	3.0				28	1.5	.....	10	4.1
Princeton.....	Princeton General.....	27.27	8	3.4				17	1.6	.....	5	5.4
Summerland.....	Summerland.....	9.72	4	2.4				8	1.2	2		4.8
Vernon.....	Vernon Jubilee.....	54.68	18	3.0				39	1.4	.....	7	7.9
Division No. 4												
Abbotsford.....	Matsqui-Sumas Abbotsford.....	12.33	3	4.1				8	1.5	.....	3	4.1
Chilliwack.....	Chilliwack.....	29.73	14	2.1				26	1.1	8		3.7
Garden Bay.....	St. Mary's.....	10.03	3	3.3				7	1.1	.....	2	5.0
Mission City.....	Mission Memorial.....	16.77	4	4.2				11	1.6	.....	3	5.2
North Vancouver	North Vancouver General	48.37	20	4.4				47	1.1	15		3.2
Vancouver.....	St. Paul's.....	366.42	90	4.6	212	1.7	1.1	502	0.7	315		1.2
Vancouver.....	St. Vincent's.....	27.47	10	2.7				34	0.8	.....	127	0.2
Vancouver.....	Vancouver General.....	892.83	296	3.0	267	3.3	1.5	1,296	0.7	344		2.6
Vancouver.....	Salvation Army Grace.....	43.39	11	3.9				27	1.6	.....	120	0.4
Vancouver.....	Crippled Children's.....	22.83	4	5.7				16	1.4	14		1.6
New Westminster	Royal Columbian.....	165.96	24	6.9	98	1.6	1.4	215	0.8	32		5.1
New Westminster	St. Mary's.....	48.10	19	2.5				43	1.1	.....	45	1.1
Division No. 5												
Alert Bay.....	St. Georges.....	17.27	5	3.4				13	1.3	.....	2	8.6
Campbell River.....	Lourdes.....	15.74	8	2.0				20	0.7	.....	2	7.8
Ceepeecree.....	Nootka Mission General.....	4.61	2	2.3				8	0.6	.....	1	4.6
Chemainus.....	Chemainus General.....	21.77	10	2.2				20	1.0	.....	2	10.3
Comox.....	St. Joseph's.....	39.94	14	2.8				33	1.2	.....	4	9.9
Cumberland.....	Cumberland General.....	27.28	7	3.8				17	1.6	3		9.0
Duncan.....	King's Daughters.....	73.10	22	3.3				51	1.4	.....	6	12.1
Ganges.....	Lady Minto Gulf Islands.....	9.34	3	3.1				5	1.8	.....	3	3.1

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Continued.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurses	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
BRITISH COLUMBIA—continued												
Division No. 5—continued												
Ladysmith	Ladysmith General	15.22	6	2.5				14	1.1	2		7.6
Nanaimo	Nanaimo Hospital	63.86	20	3.1				52	1.1	8		7.8
Port Alberni	West Coast General	70.35	25	2.8				56	1.2		7	10.0
Rock Bay	St. Michael's	6.92	3	2.3				7	0.9		3	2.3
Sidney	Rest Haven	17.21	8	2.1				26	0.7	3		5.7
Victoria	Royal Jubilee	253.59	33	7.6	159	1.6	1.3	347	0.7	43		6.0
Victoria	St. Joseph's	202.63	29	7.0	127	1.6	1.3	274	0.7	60		3.3
Victoria	Queen Alexandra Solarium	63.22	5	12.6				46	1.3		16	4.0
Bamfield	Red Cross	0.12	1	0.1				2	0.1		0	
Zebellos	Red Cross	7.84	4	1.9				8	0.9		2	3.9
Division No. 6												
Ashcroft	Lady Minto	10.93	4	2.7				8	1.3		1	10.9
Kamloops	Royal Inland	107.22	16	6.7	47	2.3	1.7	107	1.0	9		12.0
Lytton	St. Bartholomew's	16.41	5	3.3				15	1.1		4	4.1
Merritt	Nicola Valley General	14.92	5	2.9				11	1.3		3	5.0
Salmon Arm	Salmon Arm General	22.35	8	2.8				14	1.3	2		11.1
Division No. 7												
Bella Bella	R. W. Large Memorial	25.31	10	2.5				22	1.1		2	12.0
Bella Coola	Bella Coola General	13.71	4	3.4				9	1.5		1	13.7
Oceans Falls	Ocean Falls	14.62	5	2.9				11	1.3	2		7.3
Powell River	St. Luke's	36.11	13	2.7				22	1.5		3	12.0
Division No. 8												
Alexis Creek	Chilcotin General	4.32	3	1.4				5	0.8		1	4.3
Burns Lake	Burns Lake	2.20	0					2	1.1		1	2.2
Prince George	City of Prince George	36.01	8	4.5				22	1.6		2	18.0
Hazelton	Hazelton	6.11	3	2.0				6	1.0		1	6.1
Quesnel	Quesnel	24.68	5	4.9				14	1.7		3	8.2
Smithers	Smithers	18.46	6	3.1				11	1.6		2	9.0
Williams Lake	War Memorial	15.21	5	3.0				14	1.1		2	7.6
McBride	Red Cross	14.56	4	3.6				9	1.6	3		4.8
Division No. 9												
Atlin	St. Andrews	2.87	2	1.4				8	0.3		2	1.4
Port Simpson	Port Simpson General	16.84	4	4.2				10	1.6		1	16.8
Prince Rupert	Prince Rupert General	49.55	18	2.8				35	1.4		5	9.9
Queen Charlotte City	Skidegate Inlet General	3.34	1	3.3				5	0.7		2	1.6
Division No. 10												
Dawson Creek	St. Joseph's	14.36	5	2.8				21	0.7		1	14.3
Fort St. John	Providence	11.15	3	3.7				15	0.8		2	5.5
Pouce Coupe	Pouce Coupe Community	15.95	4	3.9				10	1.5		3	5.3
Cecil Lake	Red Cross	0.50	1					2			2	
YUKON												
Dawson	St. Mary's	38.17	5	7.6				20	1.9		2	19.1
Mayo	General	4.60	2	2.3				4	1.2		1	4.6
Whitehorse	General	5.49	3	1.8				7	0.8		1	5.5

TABLE 5—AVERAGE DAILY PATIENTS AS RELATED TO HOSPITAL PERSONNEL AND DOCTORS—Concluded.

Census Division and Location	Name of Hospital	Average daily Patients	Graduate Nurses	Patients per Graduate Nurse	Student Nurse	Patients per Student Nurse	Patients per Graduate and Student Nurse	Total Personnel	Patients per Personnel	Staff Doctors	Attending Doctors	Patients per Doctor
NORTH WEST TERRITORIES												
Aklavik.....	All Saints.....	14.94	3	5.0	.....	.....	10	1.5	.....	1	14.9
Aklavik.....	Immaculate Conception.....	9.03	2	4.5	.....	.....	9	1.0	.....	1	9.0
Chesterfield Inlet.....	Ste. Theresa.....	5.90	1	5.9	.....	.....	11	0.5	.....	1	5.9
Fort Norman.....	Bishop Bompas.....	1.87	2	0.9	.....	.....	6	0.3	.....	1	1.8
Fort Rae.....	Farrard Hospital.....	6.12	2	3.1	.....	.....	6	1.0	.....	1	6.1
Fort Resolution.....	St. Joseph's.....	8.45	3	2.8	.....	.....	7	1.2	.....	1	8.4
Fort Simpson.....	St. Marguerite.....	14.95	2	7.5	.....	.....	11	1.4	.....	1	.....
Fort Smith.....	General.....	26.52	2	13.3	.....	.....	13	2.0	.....	1	26.5
Hay River.....	St. Peter's Mission.....	2.10	1	2.1	.....	.....	1	2.1	.....	1	2.1
Pangnirtung.....	Anglican Hospital.....	13.03	2	6.5	.....	.....	8	1.6	.....	1	13.0

TABLE 6—PATIENTS AND PATIENT DAYS IN ACUTE DISEASES HOSPITALS—1933-1941
T.B. Sanatoria and Mental Hospitals not included.

Year	Number of public hospitals	Total capacity	Number of patients under care	Patient days	Average stay	Population ('000)	Beds per 10,000 population	Patients per 10,000 population
CANADA								
1933.....	564	50,859	639,585	10,652,104	16.6	10,681	47	598
1934.....	568	51,294	656,685	11,340,586	16.5	10,824	47	634
1935.....	572	52,428	746,597	12,221,506	16.3	10,935	48	682
1936.....	573	52,437	804,970	12,688,606	15.7	11,028	47	730
1937.....	584	54,176	852,624	12,803,441	15.0	11,120	48	766
1938.....	610	56,327	888,875	13,117,881	14.8	11,209	50	794
1939(*).....	608	57,438	885,819	12,480,183	14.1	11,315	50	782
1940.....	607	58,710	993,097	13,758,314	13.8	11,422	51	868
1941.....	612	59,733	1,057,553	14,215,921	13.4	11,505	52	919
Prince Edward Island								
1933.....	3	266	3,809	36,995	9.7	89	29	427
1934.....	3	270	4,223	41,430	9.8	89	30	474
1935.....	3	373	4,708	47,324	10.0	89	30	528
1936.....	4	287	5,269	52,372	9.9	92	31	572
1937.....	4	294	5,607	57,940	10.3	93	31	602
1938.....	4	296	5,533	59,987	10.8	94	31	588
1939.....	4	295	5,786	55,907	9.7	95	31	609
1940.....	4	286	6,795	65,782	9.7	95	30	715
1941.....	4	288	7,419	64,421	8.7	95	30	780
Nova Scotia								
1933.....	27	1,759	28,301	375,201	13.2	522	33	542
1934.....	27	1,808	30,797	412,787	13.4	525	34	586
1935.....	27	1,867	38,444	510,729	13.3	527	35	729
1936.....	27	1,782	36,211	471,100	13.0	537	33	674
1937.....	27	1,941	39,856	461,603	11.6	542	35	735
1938.....	30	2,343	49,322	605,464	12.3	548	42	900
1939(*).....	30	2,432	50,670	541,207	10.7	554	43	914
1940.....	31	2,545	55,911	574,019	10.3	578	45	1,009
1941.....	31	2,644	58,356	626,093	10.7	578	45	1,009
New Brunswick								
1933.....	18	1,506	18,085	253,496	14.0	420	35	430
1934.....	18	1,497	19,538	275,076	14.0	425	35	459
1935.....	18	1,495	21,043	298,975	14.2	429	35	490
1936.....	18	1,504	23,136	321,635	13.9	435	34	531
1937.....	18	1,560	28,685	358,870	13.4	440	35	606
1938.....	18	1,581	25,952	340,517	13.1	445	35	583
1939.....	14(†)	1,612	17,866	216,128	12.1	451	35	396
1940.....	16	1,552	28,000	340,680	12.1	457	36	719
Quebec								
1933.....	79	14,170	131,033	3,181,254	24.2	2,970	47	441
1934.....	82	14,290	141,031	3,404,488	24.1	3,018	47	467
1935.....	82	14,584	152,768	3,543,262	23.1	3,062	47	498
1936.....	73	14,617	163,033	3,576,491	21.9	3,096	47	526
1937.....	77	14,534	177,228	3,635,206	20.5	3,135	46	560
1938.....	77	14,924	181,418	3,738,903	20.6	3,172	47	571
1939(*).....	79	15,315	161,945	3,082,744	19.0	3,210	47	504
1940.....	80	15,438	201,266	3,833,668	19.0	3,332	47	643
1941.....	80	15,893	214,251	3,844,180	17.9	3,332	47	643
Ontario								
1933.....	154	15,460	224,426	3,361,138	14.9	3,564	43	629
1934.....	155	15,740	234,405	3,505,203	14.9	3,629	43	645
1935.....	155	15,921	251,276	3,715,050	14.7	3,673	43	684
1936.....	159	16,047	264,672	3,873,369	14.6	3,690	43	717
1937.....	161	16,639	276,791	3,910,137	14.1	3,711	44	745
1938.....	169	17,355	288,045	4,039,946	14.0	3,731	46	772
1939.....	168	17,557	300,876	4,238,505	14.0	3,752	46	801
1940.....	165	17,895	324,048	4,457,227	13.7	3,788	47	936
1941.....	163	18,132	354,567	4,666,715	13.1	3,788	47	936

(*)—From 1939 the Tuberculosis units in public Hospitals were not included in the tables on movement of patients.

(†)—Three general hospitals did not report—bed capacities are included as of the preceding year.

TABLE 6—PATIENTS AND PATIENT DAYS IN ACUTE DISEASES HOSPITALS—1933-1941—Continued
T.B. Sanatoria and Mental Hospitals not included

Year	Number of public hospitals	Total capacity	Number of patients under care	Patient days	Average stay	Population ('000)	Beds per 10,000 population	Patients per 10,000 population
Manitoba								
1933.....	34	3,619	52,864	756,250	14.3	710	50	744
1934.....	36	3,691	57,017	830,592	14.5	711	51	801
1935.....	36	3,806	62,071	958,178	15.4	711	53	873
1936.....	38	3,673	67,935	936,212	13.7	711	51	955
1937.....	40	4,082	68,381	913,996	13.3	717	56	953
1938.....	42	4,209	71,310	949,405	13.3	720	58	990
1939.....	43	4,331	77,170	1,015,729	13.1	727	60	1,061
1940.....	43	4,401	81,567	1,043,800	12.8			
1941.....	42	4,373	82,947	1,058,528	12.7	730	60	1,136
Saskatchewan								
1933.....	82	3,911	52,719	742,032	14.0	932	42	565
1934.....	82	3,907	60,972	824,843	13.5	932	42	654
1935.....	80	3,997	64,810	869,978	13.4	931	42	696
1936.....	87	4,050	72,290	951,996	13.2	931	43	776
1937.....	87	4,205	76,737	1,007,779	13.1	939	44	817
1938.....	92	4,313	79,158	1,033,212	13.0	941	45	841
1939(*).....	90	4,479	79,500	933,970	11.7	949	47	837
1940.....	91	4,517	86,255	957,322	11.1			
1941.....	92	4,502	88,775	947,248	10.7	896	50	990
Alberta								
1933.....	86	4,614	63,589	823,627	12.9	748	61	850
1934.....	88	4,594	68,361	865,667	12.7	756	60	904
1935.....	90	4,733	75,478	1,002,143	13.2	764	61	987
1936.....	87	4,649	84,465	1,083,979	12.8	772	60	1,094
1937.....	88	4,748	87,886	1,069,417	12.1	778	61	1,129
1938.....	93	5,024	92,642	1,070,751	11.5	783	64	1,183
1939.....	91	5,059	95,636	1,094,964	11.4	789	64	1,212
1940.....	92	5,481	96,106	1,078,831	11.2			
1941.....	95	5,630	104,795	1,120,164	10.7	796	70	1,316
British Columbia								
1933.....	74	5,332	63,669	1,092,703	17.1	712	74	894
1934.....	74	5,400	69,837	1,168,735	16.7	725	74	963
1935.....	74	5,515	74,850	1,242,107	16.5	735	75	1,018
1936.....	73	5,611	86,915	1,385,889	15.9	750	74	1,158
1937.....	73	5,874	91,891	1,341,295	14.6	751	78	1,223
1938.....	76	5,985	94,158	1,292,307	13.7	761	78	1,237
1939.....	76	6,038	94,768	1,259,643	13.2	774	78	1,224
1940.....	77	6,261	104,435	1,366,768	13.0			
1941.....	78	6,210	111,378	1,433,801	12.8	817	76	1,363
Yukon and N.W.T.								
1933.....	7	222	1,090	29,408	26.9	14	16	778
1934.....	3	97	504	11,765	23.1	14	7	360
1935.....	7	238	1,149	33,760	24.0	14	17	820
1936.....	7	216	644	35,583	55.2	14	15	460
1937.....	9	299	1,562	47,198	30.2	14	21	1,115
1938.....	9	297	1,340	47,376	28.3	14	21	957
1939.....	9	332	1,602	41,386	25.8	14	23	1,144
1940.....	8	334	1,514	40,217	26.5			
1941.....	10	392	2,168	46,296	21.3	16	24	1,355

(*)—From 1939 the Tuberculosis units in public hospitals were not included in the tables on movement of patients.

TABLE 7—REVENUES AND EXPENDITURES OF ACUTE DISEASES HOSPITALS, TUBERCULOSIS SANATORIA AND MENTAL HOSPITALS

Province	ALL INSTITUTIONS			Acute Diseases Hospitals			Tuberculosis Sanatoria			Mental Hospitals		
	Number of Institutions	Revenue	Expenditures	Number of Hospitals	Revenue	Expenditures	Number of Sanatoria	Revenue	Expenditures	Number of Hospitals	Revenue	Expenditures
Canada	695	\$ 73,482,385	\$ 71,110,053	596	\$ 46,538,774	\$ 44,287,828	39	\$ 7,859,462	\$ 7,753,229	60	\$ 19,084,149	\$ 19,068,996
Prince Edward Island	6	361,796	370,722	4	159,770	154,602	1	64,700	64,022	1	137,326	152,098
Nova Scotia	51	2,694,212	2,800,671	31 ⁽¹⁾	1,645,120	1,760,733	3 ⁽²⁾	350,869	350,869	17	698,223	689,069
New Brunswick	20	2,007,872	1,963,370	16	1,181,073	1,135,432	3	449,173	450,312	1	377,626	377,626
Quebec	97	20,145,443	20,839,081	76 ⁽³⁾	12,801,386	13,414,168	11	1,258,127	1,327,661	10	6,085,930	6,097,252
Ontario	187	24,372,398	22,485,415	158	14,797,139	12,883,990	13	3,296,633	3,351,351	16	6,278,626	6,250,074
Manitoba	49	4,552,106	4,553,509	42 ⁽³⁾	2,939,670	3,048,964	3	577,623	469,732	4	1,034,813	1,034,813
Saskatchewan	94	5,269,452	5,359,458	89 ⁽⁴⁾	2,759,828	2,853,535	3	721,788	718,087	2	1,787,836	1,787,836
Alberta	96	5,520,878	5,060,410	90	4,024,444	3,566,510	1	368,333	365,799	5	1,128,101	1,128,101
British Columbia	82	8,436,455	7,553,522	77	6,108,571	5,345,999	1	772,216	655,396	4	1,555,668	1,552,127
Yukon	3	89,614	89,355	3	89,614	89,355	.....	.....	.....	.....	.....	.....
Northwest Territories	10	32,159	34,540	10 ⁽⁵⁾	32,159	34,540	.....	.....	.....	.....	.....	.....

(1)—3 hospitals did not furnish financial reports.
(2)—6 hospitals did not furnish financial reports.

(3)—3 hospitals did not furnish financial reports.
(4)—11 hospitals did not furnish financial reports.

(5)—7 hospitals did not furnish financial reports.
(6)—1 sanatorium did not furnish financial report.

TABLE 8—VALUE OF LAND, BUILDINGS AND EQUIPMENT OF ACUTE DISEASES HOSPITALS, TUBERCULOSIS SANATORIA AND MENTAL HOSPITALS IN CANADA, 1941.

Province	TOTAL INSTITUTIONS			Acute Diseases Hospitals			Tuberculosis Sanatoria ⁽¹⁾			Mental Hospitals		
	Number of Institutions	Institutions reporting items	Value of land, buildings and equipment	Number of Hospitals	Hospitals reporting items	Value of land, buildings and equipment	Number of Sanatoria	Sanatoria estimated	Value of land, buildings and equipment	Number of Hospitals	Hospitals reporting items	Value of land, buildings and equipment
Canada	695	558	\$ 242,155,061	596	462	\$ 146,765,486	39	39	\$ 25,965,000	60	57	\$ 69,424,575
Prince Edward Island	6	5	1,173,542	4	3	532,542	1	1	246,000	1	1	395,000
Nova Scotia	51	44	7,412,079	31	24	2,854,786	3	3	1,350,000	17	17	3,207,293
New Brunswick	20	18	7,792,711	16	14	4,423,711	3	3	1,644,000	1	1	1,725,000
Quebec	97	76	77,108,235	76	56	51,376,888	11	11	5,778,000	10	9	19,953,347
Ontario	187	157	87,341,229	158	129	58,306,467	13	13	10,986,000	16	14	18,048,762 ⁽²⁾
Manitoba	49	41	15,487,530	42	35	6,626,519	3	3	1,977,000	4	3	6,884,011
Saskatchewan . . .	94	78	14,010,818	89	73	4,880,495	3	3	2,286,000	2	2	6,844,323
Alberta	96	65	13,880,453	90	59	7,550,751 ⁽³⁾	1	1	630,000	5	5	5,699,702
British Columbia	82	74	17,948,464	77	69	10,213,327	1	1	1,068,000	4	4	6,667,137
Yukon and Northwest Territories . . .	13		No reports	13								

(1) Estimated. Based on capital cost of \$3,000 per bed.

(2) Value of buildings only.

(3) Last financial figures available, Census, 1931.

TABLE 9—POPULATION, HOSPITALS, BEDS, DOCTORS AND DENTISTS IN THE VARIOUS COUNTRIES OF THE WORLD.
Compiled from "World Trade in Dental and Surgical Goods", U.S. Department of Commerce, Washington, D.C. 1939.

NORTH AMERICA	Population in 000's	Total Hospitals	Beds Reported	Licensed Doctors	Licensed Dentists	Number of population to each Doctor	Number of population to each Dentist
Bahamas.....	70	2	100	18	3	3,900	23,000
Barbadoes.....	185	3	243	57	24	3,245	7,708
Bermuda.....	30	3	120	13	9	2,307	10,000
British Honduras.....	56	7	119	5	4	11,200	14,000
Canada.....	11,080	1,006	102,897	10,021	4,037	1,105	2,744
Costa Rica.....	592	17	2,664	164	52	3,610	11,400
Cuba.....	4,370	96	15,400	3,075	1,097	1,421	4,000
Dominion Republic.....	1,520	47	935	275	100	5,527	15,200
El Salvador.....	1,632	27	2,346	122	N.R.	13,377	.....
Guatemala.....	2,420	25	2,700	225	85	10,755	28,500
Haiti.....	2,700	16	1,364	223	58	12,107	46,500
Honduras.....	1,000	14	1,100	128	25	7,812	40,000
Jamaica.....	1,139	25	1,447	227	93	5,000	12,250
Antigua.....	34	2	250	7	2	4,850	17,000
British Virgin Islands.....	6	1	9	1	1	6,000	6,000
Dominica.....	47	4	147	7	1	6,700	47,000
Montserrat.....	14	1	40	2	N.R.	7,000	.....
St. Kitts-Nevis, Anguilla.....	38	5	156	7	2	5,428	17,000
Martinique.....	238	8	1,366	47	15	5,064	15,800
Mexico.....	19,154	289	N.R.	5000-6000	800-900	3,500	22,500
Netherlands West Indies.....	91	8	N.R.	23	8	4,000	11,375
Newfoundland.....	288	23	1,325	115	18	2,500	16,000
Nicaragua.....	850	15	1,183	240	43	3,542	20,000
Panama.....	535	19	4,371	73	45	7,330	11,800
St. Lucia.....	67	6	124	10	2	6,700	33,500
St. Pierre-Miquelon.....	4	1	90	3	1	1,333	4,000
St-Vincent.....	57	6	101	N.R.	N.R.	.....	.....
Trinidad, Tobago Islands.....	448	16	1,048	106	14	4,226	32,000
United States.....	140,300	6,437	1,027,046	142,000	62,400	981	2,250

SOUTH AMERICA	Population in 000's	Total Hospitals	Beds Reported	Licensed Doctors	Licensed Dentists	Number of population to each Doctor	Number of population to each Dentist
Argentina.....	12,761	740	62,863	11,736	4,078	1,087	3,130
Bolivia.....	2,700	47	N.R.	47	50	60,000	54,000
Brazil.....	30,636	1,090	73,973	25,000	10,000	1,225	3,063
Chili.....	4,572	184	19,040	550	300	8,313	15,240
Columbia.....	5,760	244	11,422	375	224	15,360	25,710
Ecuador.....	3,000	55	5,500	50	300	60,000	30,000
The Guianas.....	533	9	900	108	48	5,000	11,110
Paraguay.....	950	33	4,500	113	30	8,408	31,660
Peru.....	6,237	70	8,730	1,188	455	5,250	13,708
Uruguay.....	2,066	84	N.R.	1,494	724	1,390	2,853
Venezuela.....	3,500	83	N.R.	225	135	11,111	26,000

EUROPE	Population in 000's	Total Hospitals	Beds Reported	Licensed Doctors	Licensed Dentists	Number of population to each Doctor	Number of population to each Dentist
Albania.....		14	1,010	160	90	.....	.....
Azores.....		7	N.R.	54	5	.....	.....
Belgium.....	8,275	462	38,000	6,311	1,020	1,311	8,112
Bulgaria.....	6,078	169	11,998	2,809	1,042	2,164	5,833
Corsica.....	300	2	325	125	15	2,400	20,000
Danzig.....	407	6	1,850	250	150	1,630	2,713
Denmark.....	4,000	189	21,968	3,200	906	1,250	4,415
Estonia.....	1,131	59	3,300	932	205	1,213	5,517
Finland.....	3,463	536	N.R.	1,600	780	2,164	4,440
France.....	41,446	1,374	183,000	35,000	10,000	1,184	4,144
Germany.....	67,587	3,927	657,680	49,035	13,966	1,377	4,840
Gibraltar.....	19	N.R.	360	14	16	1,357	1,188
Greece.....	6,205	321	18,319	7,500	2,500	827	2,500
Hungary.....	9,035	293	47,825	6,300	1,337	1,434	6,757
Eire.....	2,972	98	6,383	1,800	426	1,651	7,000

N.R.—Indicates Not Reported.

TABLE 9—POPULATION, HOSPITALS, BEDS, DOCTORS AND DENTISTS IN THE VARIOUS COUNTRIES OF THE WORLD

—Continued

Compiled from "World Trade in Dental and Surgical Goods", U.S. Department of Commerce, Washington, D.C. 1939.

EUROPE—Continued	Population in 000's	Total Hospitals	Beds Reported	Licensed Doctors	Licensed Dentists	Number of population to each Doctor	Number of population to each Dentist
Italy.....	42,918	2,082	200,000	38,000	7,500	1,130	5,722
Latvia.....	1,950	145	12,521	1,530	782	1,274	2,494
Lithuania.....	2,550	79	4,074	1,000	600	2,550	4,250
Luxemburg.....	297	15	1,200	190	80	1,563	3,712
Madeira.....	212	4	250	30	5	7,066	42,400
Malta.....	262	21	3,300	100	15	2,620	17,466
Netherlands.....	7,936	275	30,650	5,937	1,133	1,336	7,000
Norway.....	2,876	414	19,000	2,240	1,480	1,284	2,000
Northern Ireland.....	1,256	64	14,225	949	282	1,323	4,454
Spain.....	N.R.	N.R.	N.R.	N.R.	N.R.	.....	.....
Poland.....	31,916	677	74,999	12,612	4,000	2,530	7,797
Portugal.....	6,826	285	14,000	3,612	250	1,889	27,300
Roumania.....	18,053	244	42,257	7,100	880	2,542	20,500
Sweden.....	6,251	684	58,749	8,642	2,732	723	2,288
Switzerland.....	4,194	335	47,856	3,530	1,250	1,188	3,355
U. S. S. R. (Europe).....	147,028	9,745	505,685	90,682	10,508	1,621	14,000
United Kingdom.....	45,816	3,111	.....	48,885	14,000	937	3,271
Yugoslavia.....	15,400	261	31,063	5,690	654	2,707	23,550
ASIA	Population in 000's	Total Hospitals	Beds Reported	Licensed Doctors	Licensed Dentists	Number of population to each Doctor	Number of population to each Dentist
Arabia.....	7,201	16	1,202	37	2	.....	.....
British Malaya.....	4,359	226	21,124	692	330	6,300	11,470
Burma.....	14,600	330	8,568	1,521	10	9,600	.....
Ceylon.....	5,678	114	11,816	844	29	6,727	.....
Chosen.....	23,380	141	.....	2,766	744	8,452	31,424
French Indo-China.....	23,150	128	N.R.	N.R.	N.R.	.....	.....
Hong Kong.....	988	22	2,500	194	19	5,000	.....
India.....	370,000	6,740	71,992	50,000	N.R.	7,400	.....
Iran.....	15,000	80	4,000	1,200	300	12,500	.....
Iraq.....	4,000	36	2,597	400	40	10,000	.....
Manchuria.....	37,031	335	6,200	12,914	50	2,900	.....
Netherlands Indies.....	60,000	546	42,701	1,149	73	.....	.....
Palestine.....	1,360	38	2,700	2,202	573	617	2,373
Philippine Islands.....	13,350	169	10,604	4,130	2,507	3,233	5,325
Siam.....	14,464	34	2,456	782	26	.....	.....
Syria.....	3,500	62	3,500	800	400	4,375	8,750
Turkey in Asia.....	16,490	N.R.	N.R.	N.R.	N.R.	.....	.....
AFRICA	Population in 000's	Total Hospitals	Beds Reported	Licensed Doctors	Licensed Dentists	Number of population to each Doctor	Number of population to each Dentist
Algeria.....	7,508	68	15,521	1,176	163	6,384	.....
Belgian Congo.....	11,020	200	12,000	N.R.	N.R.	.....	.....
British South Africa.....	24,700	147	5,000	303	11	.....	.....
Canary Isles.....	N.R.	32	1,550	115	10	.....	.....
Cyprus.....	367	16	N.R.	272	68	1,350	5,400
Egypt.....	15,860	203	N.R.	3,356	561	4,726	.....
Madagascar.....	3,800	62	5,800	N.R.	N.R.	.....	.....
French Morocco.....	6,300	30	N.R.	400	110	63,000	.....
Italian Africa.....	2,500	N.R.	N.R.	200	25	25,000	.....
Kenya.....	3,098	56	N.R.	304	31	10,190	.....
Liberia.....	5	N.R.	N.R.	14	3	357	1,666
Portuguese E. Africa.....	N.R.	22	2,000	59	12	.....	.....
Tunisia.....	2,630	32	2,036	397	104	6,625	25,300
Union of South Africa.....	9,500	540	25,894	2,883	728	3,295	13,050
OCEANIA	.....	.....	.....	.....	.....	.....	.....
Australia.....	6,700	561	56,607	8,000	3,170	837	2,114
New Zealand.....	1,600	433	18,553	1,450	923	1,104	1,733
Fiji, Samoa, Tonga, Cook Islands.....	299	29	N.R.	221	5	1,353	5,980
Society Islands.....	N.R.	3	71	9	3	.....	.....

N.R.—Indicates Not Reported.

SECTION 3

ECONOMIC STATUS

CHAPTER I

Canada's National Income

Estimates of national income with the several breakdowns, afford an excellent analysis of the economic status of the Canadian people. It is proposed to present a short summary of the movement of the national income and its main components since the end of the last world war.

The national income is briefly defined as the net value of the goods produced and services rendered during a given period. The word "net" signifies that certain deductions are made from the gross revenues received for the production of economic goods, so as to eliminate payments duplicated between enterprises. From the gross revenue of enterprises is deducted the cost of raw materials, fuel and purchased electricity. The overhead expenses paid for services rendered by other groups are deducted and provision is made for the maintenance of plant and equipment by depreciation accounts.

The national income is the most efficient benchmark for comparison with economic factors of general significance. The sub-totals of income originating in the various industrial and service groups, present a graphic picture of the productive sources of income. The distribution by types of payment to individuals, discloses the numbers, rates and remuneration of occupational income, and in addition, payments to investors and speculators in the form of dividends, interest and rent. The cross-classification of productive groups by types of payment and by provinces answers many questions of interest to the economist and sociologist.

MONEY INCOME. — Canada's money income, as shown in Table 1 and Chart 1, largely due to inflated prices, reached a high level of about \$4,614,000,000 in 1920 and fell off about 20 per cent during the following year. A recovery was shown until 1929 when a maximum of \$5,149,000,000 was recorded. The low point of the depression was experienced in 1933 when the figure was only 55 per cent of the total for 1929. The temporary setback of 1938 merely interrupted the advance which was markedly accelerated during the war years.

The long-term trend of money income was slightly

upward during the 22 years from 1919 to 1940, the depressed conditions of the thirties interfering to a large extent with economic development in the last half of the period. The rising trend was achieved, despite the unprecedented setback of the thirties when idle plant and personnel were so much in evidence. Money income, however, averaged lower in the last eleven years of the period than in the years from 1919 to 1929.

Total income, even when measured in current rather than in fixed prices, recorded an upward trend of moderate proportions during the twenty-two years; extending the period back to 1911 or forward through 1942, the upward trend would be much more pronounced.

The same series in fixed prices rose sharply over the three decades as shown in the following summary:

MONEY AND REAL NATIONAL INCOME OF CANADA, BY FIVE-YEAR PERIODS, 1911-1940.

Period	MONEY INCOME		REAL INCOME	
	Average Amount Million \$	1935-1939 = 100	Average Amount Million \$	1935-1939 = 100
1911-1915....	2,502	60.6	3,163	76.6
1916-1920....	3,770	91.2	3,195	77.3
1921-1925....	3,891	94.2	3,167	76.7
1926-1930....	4,758	115.2	3,943	95.4
1931-1935....	3,148	76.2	3,183	77.1
1936-1940....	4,594	111.2	4,506	109.1

ADJUSTMENT FOR LIVING COSTS. — The national income adjusted for changes in the cost of living is presented in column (e) of Table 1. Income adjusted for price changes presents a more optimistic view of the developments in the period since the last war. The marked decline in cost of living contributes to the increase in the amount of goods and services purchasable with a given number of dollars. In other words, we have an excellent measure of the nation's approximate command over living necessities.

Material for Part V, Section 3, compiled by Sydney B. Smith, Chief, Business Statistics Branch, Dominion Bureau of Statistics.

Chart 1

INDEX NUMBERS OF NATIONAL INCOME

1919-1940

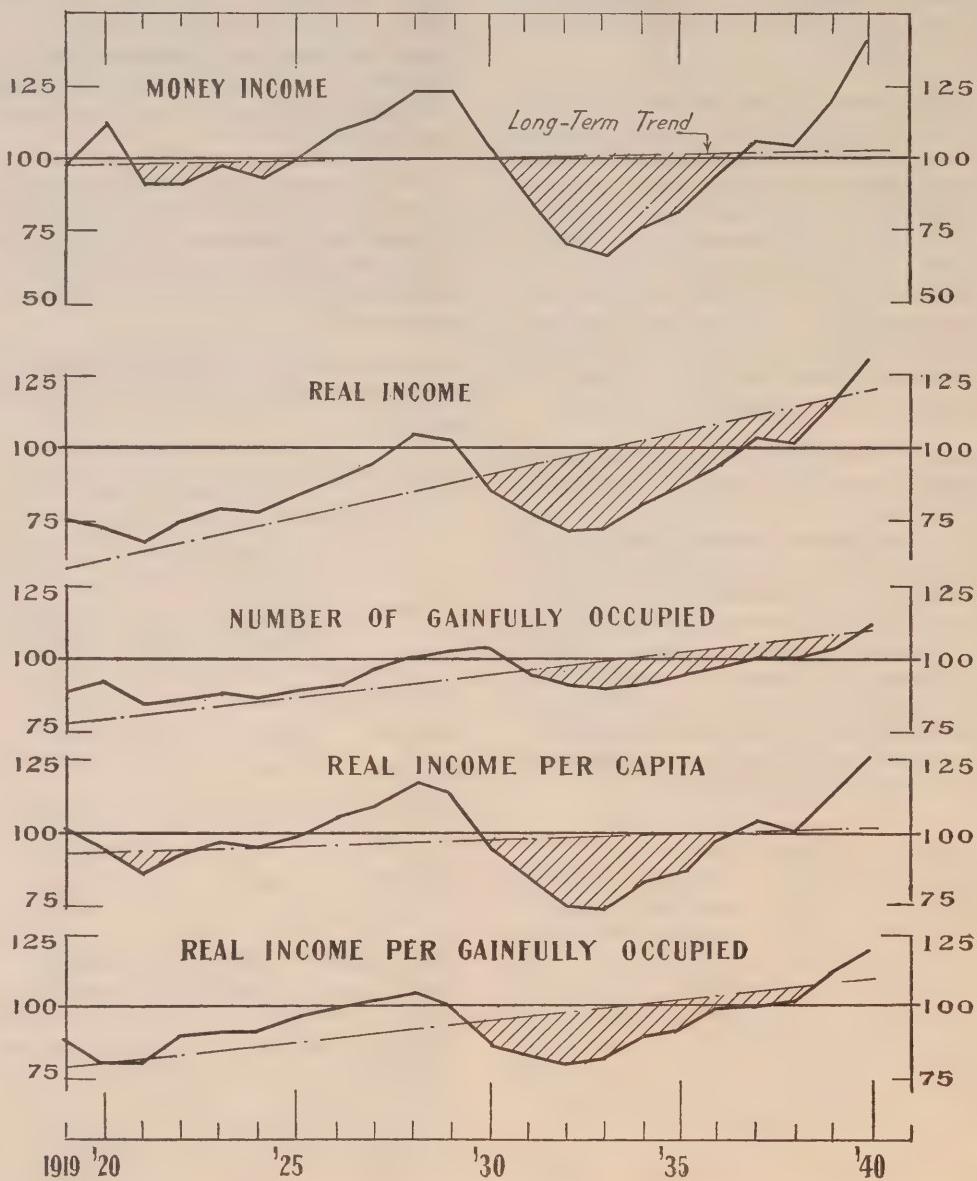
1935-39=100
(See Table I)

TABLE 1—NATIONAL INCOME OF CANADA — MONEY AND REAL INCOME PER CAPITA AND PER GAINFULLY OCCUPIED. ADJUSTMENT BY INDEX OF COST OF LIVING, 1919 TO 1940.

Year	MONEY NATIONAL INCOME			Number of Gainfully Occupied	REAL INCOME		
	Amount	Per Capita	Per Gainfully Occupied		Amount	Per Capita	Per Gainfully Occupied
1919	\$000,000	(a)	(b)	000	\$000,000	(e)	(g)
1919	4,087	492	1,277	3,208	3,144	378	980
1920	4,614	537	1,357	3,353	3,066	358	914
1921	3,735	424	1,205	3,107	2,819	321	907
1922	3,762	423	1,214	3,132	3,101	348	990
1923	3,945	438	1,233	3,194	3,242	360	1,015
1924	3,854	422	1,204	3,167	3,225	353	1,018
1925	4,161	448	1,300	3,212	3,450	371	1,074
1926	4,494	476	1,362	3,326	3,690	390	1,109
1927	4,682	486	1,338	3,469	3,905	405	1,126
1928	5,138	522	1,427	3,641	4,264	434	1,171
1929	5,149	513	1,392	3,742	4,231	422	1,131
1930	4,326	424	1,168	3,703	3,581	351	967
1931	3,498	337	999	3,454	3,206	309	928
1932	2,893	275	877	3,286	2,922	278	886
1933	2,795	262	873	3,243	2,961	277	913
1934	3,171	293	933	3,364	3,313	306	986
1935	3,381	309	966	3,455	3,515	321	1,017
1936	3,829	347	1,064	3,551	3,903	354	1,099
1937	4,342	390	1,174	3,703	4,291	386	1,099
1938	4,246	379	1,148	3,691	4,155	371	1,126
1939	4,575	404	1,204	3,805	4,789	423	1,259
1940	5,407	473	1,319	4,080	5,392	472	1,322

Data.—National Income of Canada, 1919-1938. Part I.

The income in terms of these necessities is shown to have been very low at the end of the first world war. Like other versions of income, the series adjusted for changes in the cost of living rose to a temporary maximum in 1928 and 1929, only to be exceeded again in 1940. The decline during the depression was somewhat over 30 per cent, far less than in the national income, in terms of fluctuating dollars. Real national income, as adjusted for prices of living necessities, was at its lowest point in 1933. The total then rose steadily to the present, the levels of 1939 and 1940 having been considerably above the maximum of the preceding prosperity period culminating in 1929. Real income averaged 9.5 per cent greater in the second half of the period under review than in the first half. It is apparent that the rise in volume was appreciable but in the statement of money income, this fact was obscured by the marked decline of prices from the inflated levels existing at the beginning of the period.

COMMENT ON CHART 1.—The movement of the national income and four derivatives is presented in Chart 1 on page 450. Considerable variation is shown in the trends of the five series computed for the period from 1919 to 1940. Moderate advance

in trend was shown in money income. The high point reached in 1940, at the end of the period, had an important influence on the computed direction of the trend.

When adjustment is made for changes in the cost of living, the upward trend, as shown in Section B, was more pronounced. The volume of goods and services recorded an excellent advance during the 22 years in question.

The number of the gainfully occupied and particularly the population, displayed considerable growth since the last war.

The favourable showing of real income is tempered by the effect of growth in personnel. Consequently, real income per capita showed only minor advance in the period from the last war to 1940. In view of the more limited growth in the number of the gainfully occupied, real income in terms of the number of active producers rose appreciably.

COMPARISON WITH THE INCOME OF THE PEOPLE OF THE UNITED STATES.—Comparison with the national income of the United States assists in placing the Canadian income in the proper perspective. American estimates reported in "National Income and its Composition" by Dr. Kuznets, are summarized in Table 2 and Chart 2. The income of the United States in the 22 years was 16.6 times greater than that of Canada. Chart 2 indicates the more favourable position of the United States in regard to per capita income and real income per gainfully occupied. A considerable margin was shown in the United States during each of the 22 years over the corresponding money and real income per person in Canada. The money income per capita averaged nearly 37 per cent more in the United States and disparities in real income per capita and per gainfully occupied were 37 per cent and 39 per cent, respectively.

COMMENT ON CHART 3.—The close relation of the Canadian economy to that of United States is indicated by Chart 3. The correlation between cycles¹ of money incomes and real incomes was excellent.

The maximum of real income per capita and per gainfully occupied was reached during 1923 in Canada while the next year was the peak in the United States. Real income in that country was relatively lower in 1932 and 1933 but the disparities were exceptional and on the whole, a marked degree of conformity was in evidence.

¹ The plotted curves are expressed in units of standard deviation from the long-term trend computed by the method of least squares for the period from 1919 to 1940. The object of the mathematical analysis is to eliminate the effect of trend and to place the amplitude of the fluctuations on a common footing.

Chart 2

MONEY AND REAL INCOME PER CAPITA

AND

PER GAINFULLY OCCUPIED

(See Tables 1 & 2)

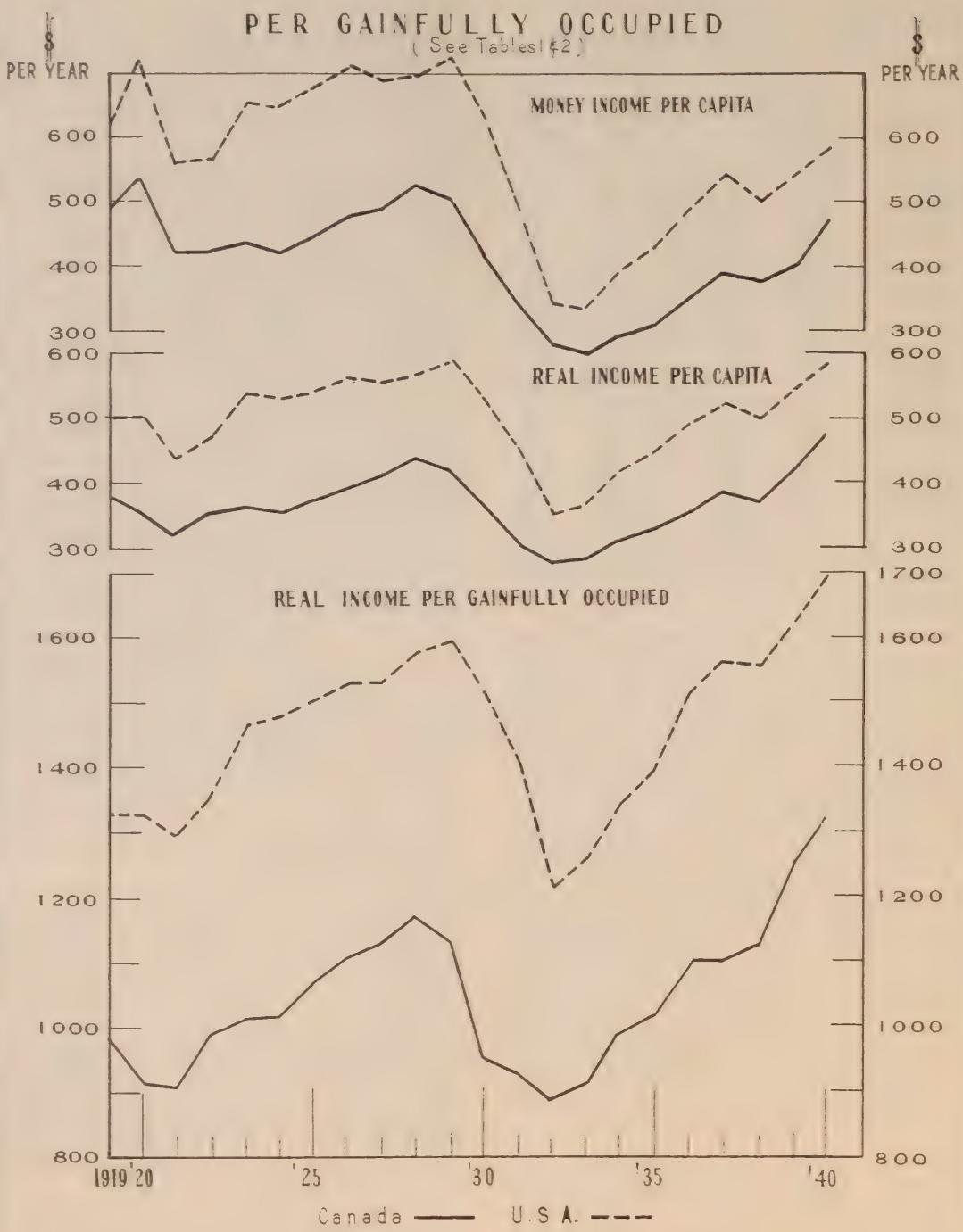
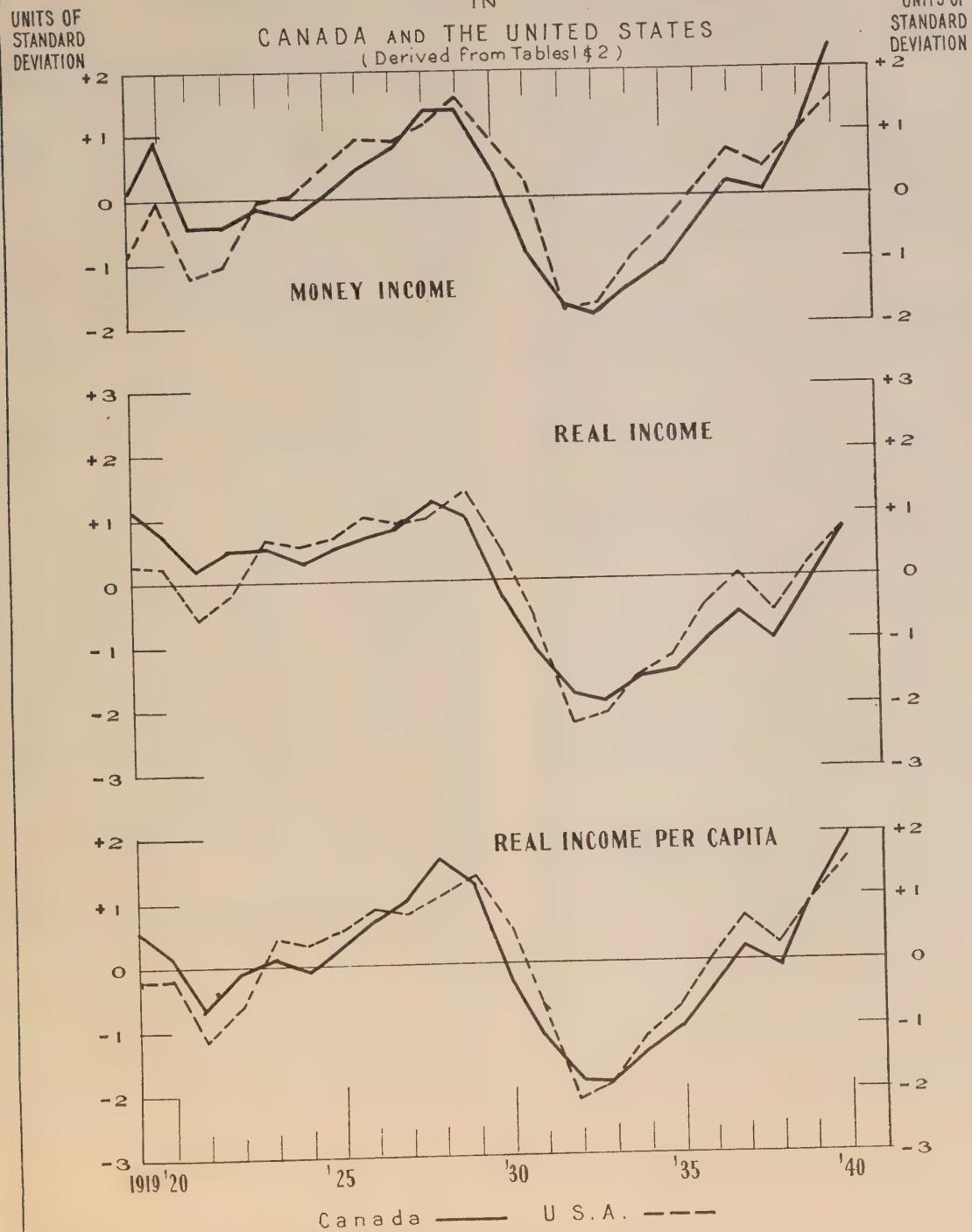


Chart 3

CYCLES OF MONEY AND REAL NATIONAL INCOME

IN

CANADA AND THE UNITED STATES
(Derived From Tables 1 & 2)

NOTE ON THE COMPUTATION OF THE NATIONAL INCOME.—The computation of the national income is a matter of accounting, payments by firms to other enterprises being regarded as debit items, while payments to individuals and undistributed profits are included in the national income account.

Broadly speaking, the income of the Canadian people is the net value of the goods and services produced. Individuals are normally paid by cheque or cash for their share in the productive process. Fundamentally, however, income consists of the goods and services purchased by means of such payments.

An alternate method of computation of more general application, is the summation of the payments to individuals by enterprises and the undistributed income of the industrial and service groups. The payments consist of salaries and wages, workmen's compensation, living allowances of so-called unpaid labour, withdrawals of working proprietors, dividends, interest, pensions, rent and a few other components. While an extensive statement of method is uncalled for, it is proposed to outline the procedure regarding the inclusion or exclusion of several important items. The work of housewives is excluded, being classed as a non-market service, in connection with a way of life rather than an economic activity. Remuneration for non-productive pursuits, useful to certain persons but disadvantageous to society, are also disregarded. Illegal practices such as robbery and gambling, as well as transfer payments, come under this heading. Capital gains and losses, charity, gifts and direct relief payments, add nothing to the general flow of economic goods.

On the other hand, a few items not passing through the market are included in estimates of national income. The most important of these are the value of home-produced food consumed on the farm and

imputed net rentals from owner-occupied dwellings. The market counterparts, food consumed by non-farmers, and net rents paid for tenant-occupied dwellings are used as a guide for valuation.

The service rendered by government is evaluated in a similar manner to that of any other service group. Payments to individuals in the form of salaries, pay and allowances, pensions and interest are added to the "savings". The positive or negative savings of the Dominion and Provincial Governments are computed by comparing the changes in net obligations with alterations in assets.

TABLE 2—NATIONAL INCOME OF THE UNITED STATES
—MONEY AND REAL INCOME PER CAPITA AND PER GAINFULLY OCCUPIED. ADJUSTMENT BY INDEX OF COST OF LIVING, 1935-39 = 100.

Year	MONEY NATIONAL INCOME			Number of Gainfully Occupied	REAL INCOME		
	Amount	Per Capita	Per Gainfully Occupied		Amount	Per Capita	Per Gainfully Occupied
	\$000,000	\$	\$	000,000	\$000,000	\$	\$
1919	65,904	628	1,656	39.8	52,935	504	1,330
1920	76,385	717	1,900	40.2	53,341	501	1,327
1921	60,304	557	1,652	36.5	47,223	436	1,294
1922	61,513	560	1,619	38.0	51,389	468	1,352
1923	72,912	654	1,787	40.8	59,813	536	1,466
1924	73,380	648	1,807	40.6	60,049	530	1,479
1925	77,845	678	1,885	41.3	62,077	540	1,503
1926	82,802	711	1,935	42.8	65,508	562	1,531
1927	81,397	689	1,897	42.9	65,643	555	1,530
1928	83,396	696	1,930	43.2	68,023	567	1,575
1929	87,787	723	1,955	44.9	71,663	590	1,596
1930	77,604	630	1,813	42.8	64,995	528	1,518
1931	60,309	486	1,531	39.4	55,482	447	1,408
1932	42,579	341	1,183	36.0	43,626	350	1,212
1933	41,819	333	1,162	36.0	45,259	360	1,257
1934	49,500	392	1,286	38.5	51,724	409	1,343
1935	54,413	428	1,367	39.8	55,467	436	1,394
1936	62,749	490	1,501	41.8	63,319	494	1,515
1937	70,116	544	1,601	43.8	68,273	530	1,559
1938	64,866	500	1,567	41.4	64,351	496	1,554
1939	70,800	541	1,620	43.7	71,227	544	1,630
1940	77,300	586	1,695	45.6	77,146	584	1,692

Data: — National Income and its Composition; Statistical Abstract of United States; Survey of Current Business.

CHAPTER II

Productive Sources of National Income

A description of the productive sources of national income is the next step in elucidating the structure of the Canadian economic system. The analysis of the general movement in the first section needs to be supplemented with an exposition of the income originating in the various industrial and service groups. The main objective will be to set forth the relative importance of the different activities, the inter-war trend of decline or advance and the response of different types of activity to the impact of depression and recovery.

Two difficulties stand in the way of presenting an accurate measure of the relative importance of the seven major groups. Canadian statistics tend to over-emphasize the position of the primary industries. Processing activities are combined with primary forestry, fisheries, and mining, in such a way that it is difficult to separate the primary and secondary phases. The practice has been to combine processing activities with the primary industries and to report manufacturing with the duplication eliminated.

Another problem arises from the heavy negative balance with other countries on dividend and interest payments. It is difficult to obtain a distribution of the balance by the different industries and groups. The result is that statistics of productive sources are normally presented on a produced basis rather than a realized basis, so far as residents of Canada are concerned. Consequently, agriculture unaffected by the adverse balance would be assigned on this score an unduly large proportion of the total.

With these limitations in mind, a percentage distribution of the income originating in the seven groups is presented in Chart 4. The predominant position of commodity production is at once apparent. Primary production including processing activities, closely associated with forestry, fisheries and mining, accounted for 25.8 per cent of the income originating in the period under review. Secondary production including construction, manufactures n.e.s. and custom and repair, was in second place with 20.7 per cent. Trade occupied third position, accounting for 12 per cent, while service, government, transportation and finance followed in the order named.

Chart 5 demonstrates the similarity in the fluctuations of the seven main groups. Primary production affected by price changes, recorded an early decline from 1929 to 1932, while secondary production was more resistant to influences of depression. It is evident that finance responds tardily to cyclical fluctuations. Transportation corresponds closely with the fluctuations of the general total. The operations of government follow a more independent course than any of the other main groups, the correlation between government income originating and the national income being obviously low during the period. The fluctuations of trade and service conformed closely to the general pattern, the latter, however, showing a lag during the declining phase from 1929 to 1933.

TABLE 3—PRODUCTIVE SOURCES OF NATIONAL INCOME
1919-1940, IN MILLION DOLLARS.
(On Produced Basis)

Data derived from National Income of Canada, Part I, Table 3.

Year	TOTAL ⁽¹⁾	Primary Production	Secondary Production	Transportation and Communication	Trade	Finance	Government	Service
1919....	4,261	1,381	954	421	568	300	207	432
1920....	4,786	1,372	1,099	486	579	328	433	488
1921....	3,926	1,088	752	457	479	323	385	441
1922....	3,954	1,054	763	467	471	335	431	432
1923....	4,157	1,150	826	472	490	342	425	451
1924....	4,056	1,125	777	459	480	358	395	462
1925....	4,371	1,266	813	478	530	373	437	474
1926....	4,711	1,349	911	525	590	381	462	493
1927....	4,909	1,338	1,021	542	608	400	486	515
1928....	5,373	1,506	1,136	588	656	417	529	541
1929....	5,421	1,407	1,240	581	674	439	511	569
1930....	4,633	1,034	1,090	507	575	442	426	560
1931....	3,791	723	861	404	479	415	388	520
1932....	3,169	559	638	328	379	340	449	476
1933....	3,035	590	577	291	366	298	465	447
1934....	3,410	774	653	317	415	281	503	468
1935....	3,622	858	727	306	442	306	499	484
1936....	4,095	990	816	356	482	341	606	504
1937....	4,624	1,162	974	386	538	365	661	539
1938....	4,535	1,116	960	371	541	391	606	550
1939....	4,861	1,273	986	408	549	453	635	557
1940....	5,694	1,433	1,204	470	586	447	956	598

⁽¹⁾ Due to rounding, the components will not add to the general totals in all cases.

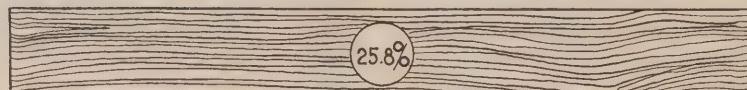
Chart 4

**RELATIVE IMPORTANCE OF THE PRODUCTIVE SOURCES
OF
NATIONAL INCOME**

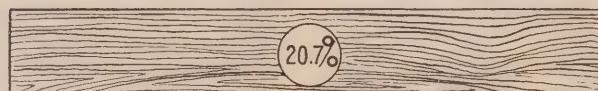
ANNUAL AVERAGE INCOME ORIGINATING 1919-1940

% of National Income
(Derived From Table 3)

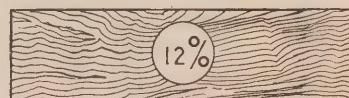
PRIMARY PRODUCTION



SECONDARY PRODUCTION



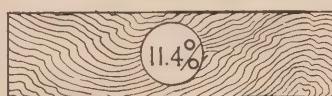
TRADE



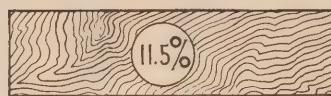
TRANSPORTATION



GOVERNMENT



SERVICE



FINANCE



Chart 5

**PRODUCTIVE SOURCES OF THE NATIONAL INCOME ON A PRODUCED BASIS
IN TERMS OF STANDARD DEVIATIONS FROM THE 1919-1940 TREND**

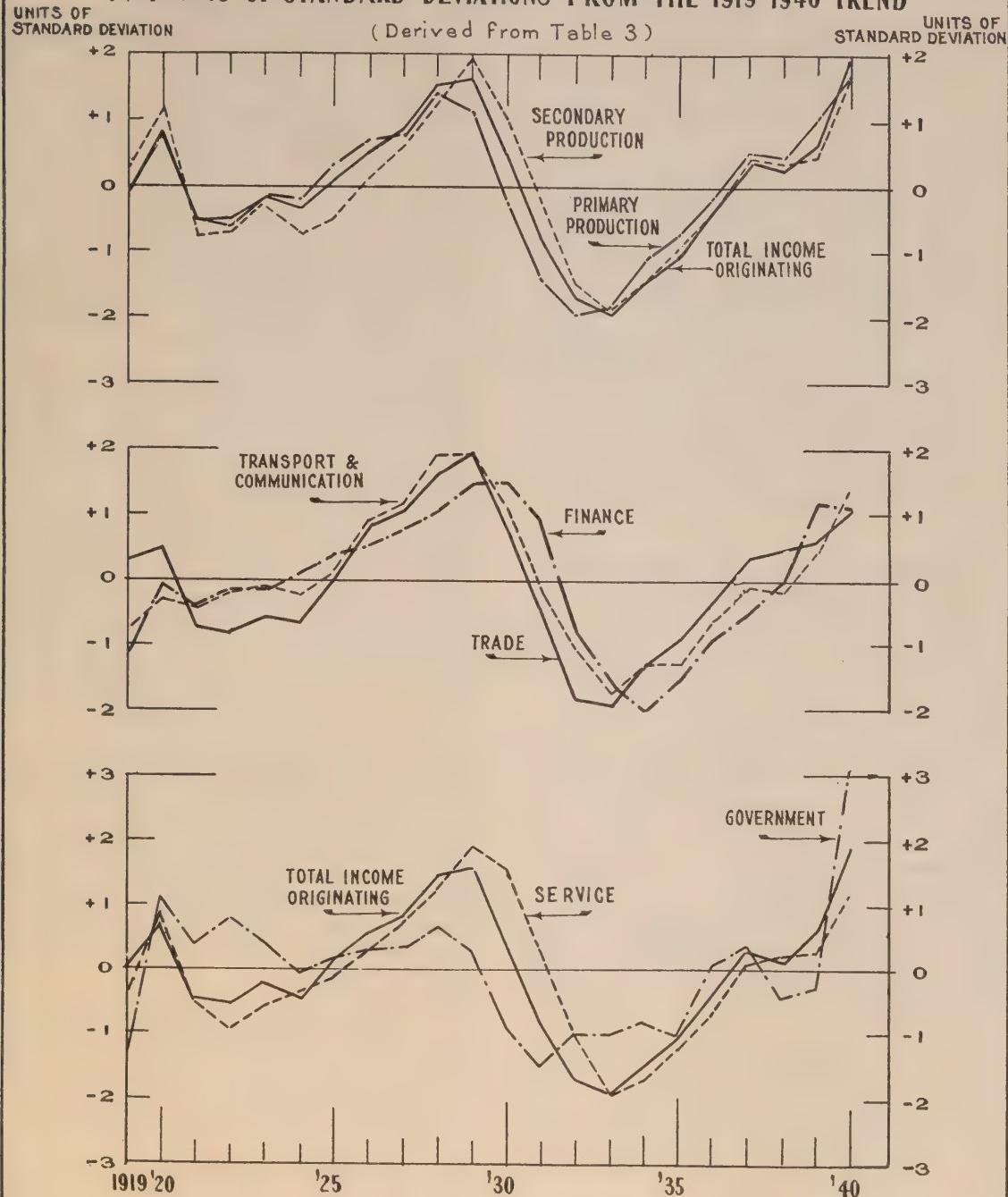


TABLE 4 — INDEXES OF PRODUCTIVE SOURCES OF NATIONAL INCOME, 1919-1940.

Average for 1935-1939 = 100.

Year	TOTAL	Primary Production	Secondary Production	Transportation and Communication	Trade	Finance	Government	Service
1919.....	98.0	127.9	106.9	115.2	111.3	80.9	34.4	82.0
1920.....	110.1	127.1	123.1	133.0	113.4	88.4	72.0	92.6
1921.....	90.3	100.8	84.2	125.1	93.8	87.1	64.0	83.7
1922.....	91.0	97.6	85.5	127.8	92.3	90.3	71.7	82.0
1923.....	95.6	106.5	92.5	129.2	96.0	92.2	70.7	85.6
1924.....	93.3	104.2	87.0	125.6	94.0	96.5	65.7	87.7
1925.....	100.5	117.2	91.1	130.8	103.8	100.5	72.7	90.0
1926.....	108.4	124.9	102.1	143.7	115.6	102.7	76.8	93.6
1927.....	112.9	123.9	114.4	148.3	119.1	107.8	80.8	97.8
1928.....	123.6	139.5	127.3	160.9	128.5	112.4	88.0	102.7
1929.....	124.7	130.3	138.9	159.0	132.1	118.3	85.0	108.0
1930.....	106.6	95.7	122.1	138.7	112.6	119.1	70.8	106.3
1931.....	87.2	66.9	96.5	110.6	93.8	111.9	64.5	98.7
1932.....	72.9	51.8	71.5	89.8	74.2	91.6	79.7	90.3
1933.....	69.8	54.6	64.6	79.6	71.7	80.3	77.3	84.9
1934.....	78.4	71.7	73.1	86.7	81.3	75.7	83.6	88.8
1935.....	83.3	79.5	81.4	83.7	86.6	82.5	83.0	91.9
1936.....	94.2	91.7	91.4	97.4	94.4	91.9	100.8	95.7
1937.....	106.3	107.6	109.1	105.6	105.4	98.1	109.9	102.3
1938.....	104.3	103.4	107.6	101.5	106.0	105.4	100.8	104.4
1939.....	111.8	117.9	110.5	111.7	107.6	122.1	105.6	105.7
1940.....	131.0	132.7	134.9	128.6	114.8	120.5	159.0	113.5

THE CLASSIFICATION OF ENTERPRISES FOR NATIONAL INCOME PURPOSES. — The thirty original classes for purposes of study, have been combined into seven major groups, the Bureau's statistical classification with appropriate adaptations, having been followed. Primary production comprises six industries. Agriculture includes fur farming and the woods operations of the farmer on his own property. Dairy activities are limited to the production of milk, butter and cheese on the farm itself.

Forestry includes the operations of the lumber and pulp and paper industries, as well as woods operations other than those of the farmer on his wood lot. Fish canning and curing plants, as well as primary operations are included in the fisheries group. The activities of trappers and hunters are considered in connection with the trapping industry to the exclusion of fur farming.

As the final product is the first to which a commercial value is ordinarily assigned, the processing industries of smelting, cement, clay products, lime and salt are included in mining. The electric power group coincides with central electric stations as annually reported by the Bureau.

Secondary production embraces construction, manufacturing n.e.s. and custom and repair. Cons-

truction covers operations as reported in recent years by the Bureau. Manufacturing production n.e.s. is exclusive of processing activities closely connected with several primary industries. As intimated above, saw-milling, and pulp and paper operations are included with forestry; fish canning and curing is a part of the fisheries industry, while smelting, cement, clay products, lime and salt are treated along with mining. The eight industries, for the purpose of avoiding duplication, are excluded from manufactures n.e.s. Custom and repair includes thirteen industries of which dyeing, cleaning and laundry, and automobile garages are the more important. The industrial section of the decennial census furnishes periodical information in regard to the personnel in these industries. The census of merchandising and service of 1930 was useful in estimating the operating accounts.

Annual reports of the Bureau supply considerable information regarding the following industries in the transportation-communication group: Steam and electric railways, civil aviation, express, telegraphs, and telephones. As the railway companies also operate hotels, express and telegraph services, it is necessary to separate the records of these subsidiary activities, avoiding duplication with other groups. Water and road transport, warehousing and storage are also regarded as industries in this main group, the operating accounts being estimated on the basis of occupational data, furnished by the decennial census and other relevant information. Trade is subdivided into the retail and wholesale divisions, retail services being treated elsewhere.

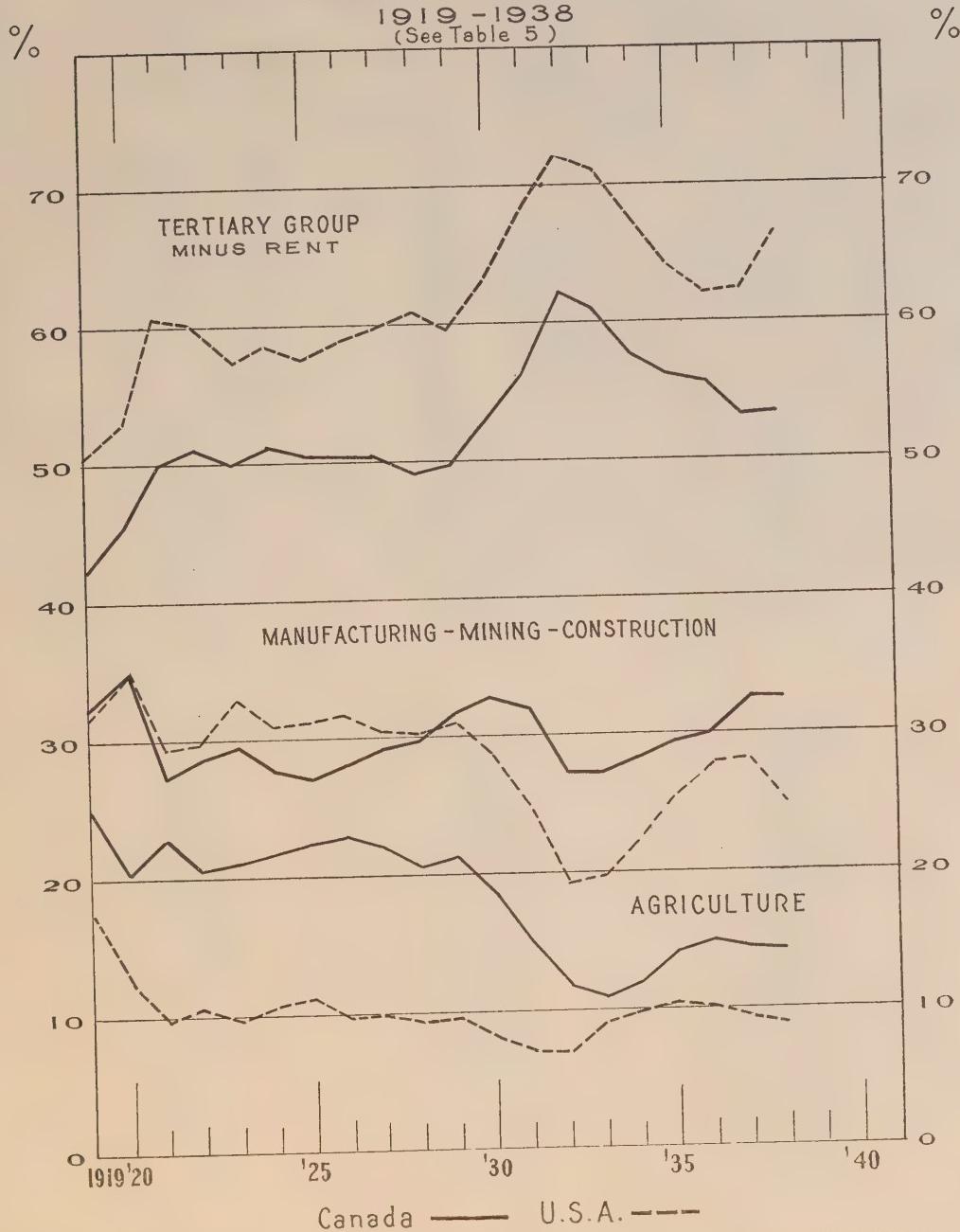
The finance industries include banking, trust companies, loan and mortgage, stock and bond dealers, insurance and real estate. Non-farm mortgage interest and net rentals, paid and imputed, are estimated for inclusion along with the real estate industry. Government income originating, including Dominion, Provincial and Municipal administration, is computed from the public accounts. Educational, railway and other operations were eliminated so as to avoid duplication.

The other major group consists of professional, educational and personal services. The latter is a composite of recreation, business service, barber shops and beauty parlours, undertaking, photography, hotels and restaurants, boarding and lodging houses, domestic and miscellaneous service.

THE RELATIVE IMPORTANCE OF AGRICULTURE IN CANADA AND THE UNITED STATES. — The lower level of per capita income, both before and after adjustment for price changes, in

Chart 6

PERCENTAGE OF NATIONAL INCOME
ORIGINATING IN
THREE MAIN GROUPS
CANADA AND UNITED STATES
1919 - 1938
(See Table 5)



the United States as reported in the first chapter of this section, calls for an explanation. Charts 6 and 7 are presented as a partial answer to this question. It is noted that Canadian agriculture contributed a much larger proportion of national income, while the tertiary group was relatively of lesser importance. The output of agriculture consists largely of the necessities of life. This being the case, it is inevitable that the proportion of national income spent on them and the proportion of national effort devoted to their production, should fall as general prosperity increases. The real income of the gainfully occupied in agriculture tends to be lower per person than in the secondary and tertiary activities.

The outstanding feature of Chart 7 is the relative ascendancy of Canadian agriculture to the disadvantage of the tertiary group. While the agricultural output of the United States is probably greater than that of any other country, the relative position of the industry in the entire economy is considerably different from that of Canada. On the other hand, the American tertiary group occupies a more prominent position than the Canadian.

The greater per capita return in the secondary and tertiary groups and the relatively prominent position of agriculture in the Canadian economy partially explain the lower per capita income in this country.

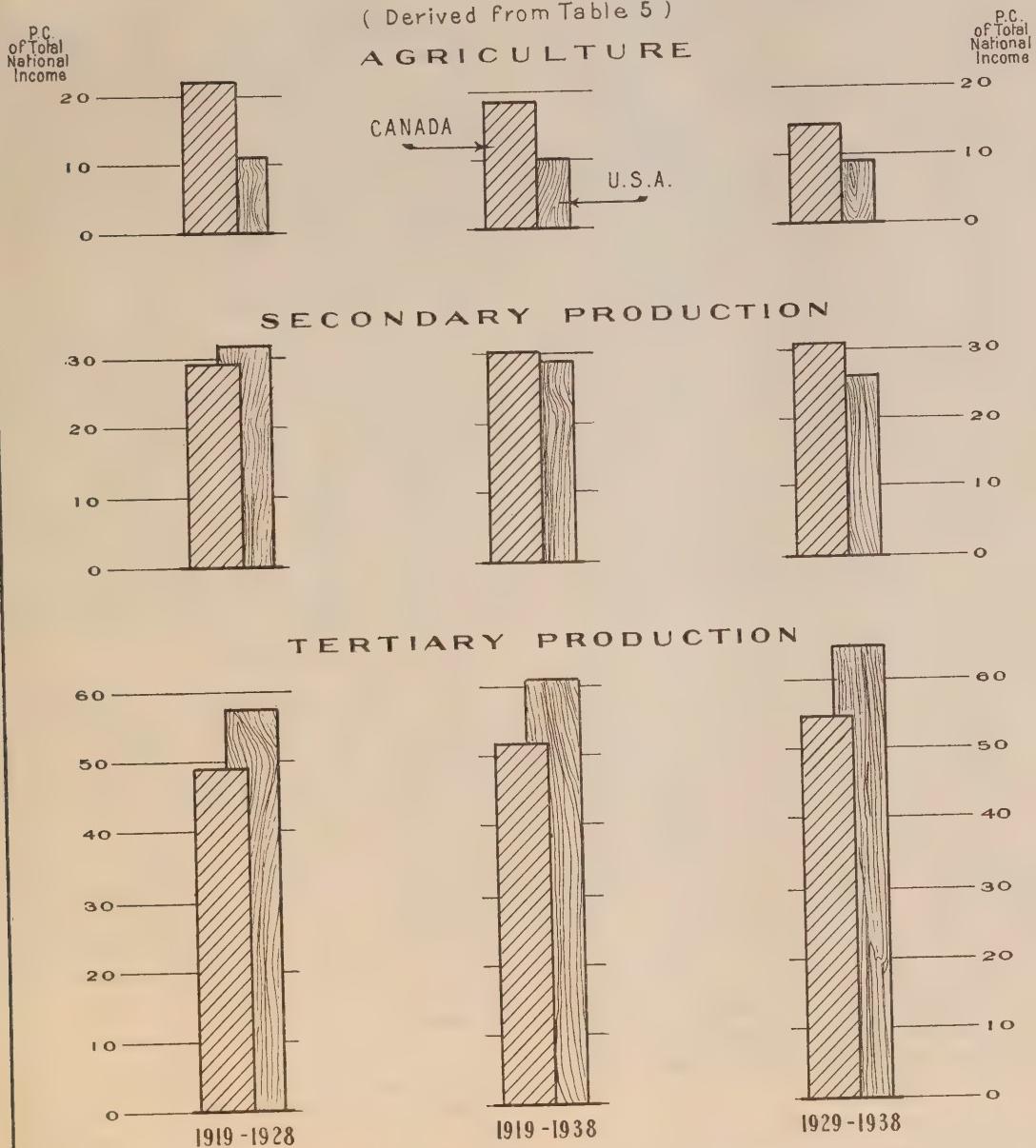
TABLE 5 — PERCENTAGE OF INCOME ORIGINATING IN EACH OF THREE MAIN GROUPS TO NATIONAL INCOME, IN CANADA AND THE UNITED STATES.

(Special compilation)

Year	CANADA			UNITED STATES		
	Agriculture	Manufactures, Mining and Construction	Tertiary minus Rents	Agriculture	Manufactures, Mining and Construction	Tertiary minus Rents
1919.....	25.0	32.9	42.1	17.5	32.2	50.3
1920.....	20.2	34.0	45.8	12.6	34.4	53.0
1921.....	22.7	27.0	50.3	9.9	29.2	60.9
1922.....	20.5	28.3	51.2	10.4	29.6	60.0
1923.....	21.0	29.2	49.8	9.9	32.7	57.4
1924.....	21.5	27.3	51.2	10.5	31.1	58.4
1925.....	22.7	26.7	50.6	11.0	31.3	57.7
1926.....	22.0	27.6	50.4	9.7	31.6	58.7
1927.....	20.4	29.2	50.4	9.8	30.4	59.8
1928.....	21.2	29.6	49.2	9.3	30.0	60.7
1929.....	18.3	32.1	49.6	9.3	31.0	59.7
1930.....	14.6	32.5	52.9	7.9	28.8	63.3
1931.....	11.7	31.8	56.5	7.1	24.6	68.3
1932.....	10.9	27.1	62.0	7.0	19.4	73.6
1933.....	12.0	27.1	60.9	9.0	19.7	71.3
1934.....	14.0	28.3	57.7	10.0	22.4	67.6
1935.....	14.7	29.3	56.0	10.3	25.5	64.2
1936.....	14.7	29.8	55.5	10.0	28.0	62.0
1937.....	14.3	32.6	53.1	9.3	28.3	62.4
1938.....	14.3	32.5	53.2	8.8	24.7	66.5
First Decade.....	21.7	29.3	49.0	11.0	31.3	57.7
Second Decade.....	14.3	30.7	55.0	8.9	26.0	65.1
TOTAL.....	18.2	29.9	51.9	10.0	28.9	61.1

Chart 7

RELATIVE IMPORTANCE
OF
THREE MAIN GROUPS AS INCOME PRODUCERS
IN
CANADA AND UNITED STATES
(Derived From Table 5)



CHAPTER III

Analysis of Income Payments to Individuals

The chief measurable flow of money is from the producer to consumer in the form of personal income. The money is received as a return for work in the form of salaries and wages, as a return from investments in the form of dividends, interest and rents, or as the withdrawals of working proprietors, representing a return from both work and investment.

The individual's power of demand and consequent control over the economic activity of society is distributed and exercised approximately in proportion to the comparative magnitude of his income, or, to express it more strictly, in proportion to the magnitude of that portion of his income which is left at his disposal after the payment of taxes.

The main types of payment are given from 1919 to 1938 in Table 6. Remuneration of employees in the form of salaries and wages, was the chief income payment amounting to 56.7 per cent of the total during the period. If living allowances and other labour income are added, the share would be increased to 61.6 per cent. The withdrawals of working proprietors, mainly farmers, retailers and professionals, reached 24.7 per cent of the total in the twenty years. Investment income including net dividends, interest on bonds and debentures, net rentals and mortgage interest, was computed at 13.7 per cent. The withdrawals of working proprietors, owing in part to the severe depression in agriculture, were 21.5 per cent less in the second decade of the period than in the first. The sum of the net rentals and mortgage interest was 10.8 per cent lower. Increase was shown in dividends and bond interest. Salaries and wages were nearly maintained, while a marked increase was shown in "other labour income" including direct relief. Income payments to individuals as a whole showed a decline of only about 3 per cent in the second decade from the first.

Remuneration of working proprietors was slightly less sensitive to fluctuations than salaries and wages. Withdrawals, after reaching \$1,330,000,000 in 1920, dropped to \$1,010,000,000 in 1922. The recovery was fairly continuous to 1929, when an intermediate maximum of \$1,186,000,000 was reached. The low point of the second major depression was about \$700,000,000, recorded during 1933. Successive gains were then shown until 1937.

Attention is drawn to reference Table 7 giving detailed information as to income payments during 1938, by industrial groups, types and provinces.

The statistics prepared in connection with "National Income of Canada, 1919-1938, Part I" are subject to revision upon the receipt of further data.

Description of Method

SALARIES AND WAGES. — Remuneration of employees, in a large number of groups, is taken directly from the compilations of the annual census conducted by the Bureau. The decennial census furnishes comprehensive information as to numbers, rates and remuneration of employees. Intercensal years were estimated by means of indexes of employment and other data. Corporation and public accounts were of great assistance in estimating salaries and wages paid by finance and government.

LIVING ALLOWANCES OF "UNPAID LABOUR". — More than one-third of a million persons were working during the census period of 1930-1931 without receiving any regular remuneration in the form of salaries or wages. As many of the "no pays" were farmers' sons working at home, the income of at least a part of the group consisted of a living allowance paid principally in the form of food, clothing and housing. Apprentices in other industrial groups, while receiving no money wages, sometimes obtain appreciable compensation in commodities and services. As there is not the customary freedom of disposal, some restriction is implied in the nature of such income.

OTHER LABOUR INCOME. — Compensation is provided in eight of the nine provinces for injuries suffered by employees while engaged in industrial occupations. Funds are accumulated by contributions from the firms, classified into industrial groups according to occupational hazards.

Pensions are regarded as a credit item in the national income account. If a pension is paid to a retired worker out of company funds, it should be added to the record. Similarly pensions in respect of war services, old age pensions, mother's allowances, pensions to the blind and similar payments fall under this heading.

Direct relief payments are disbursements to individuals that are not necessarily related to services currently performed by them. These payments, after allowance for general expenses, have also been distributed according to origin in the various government agencies.

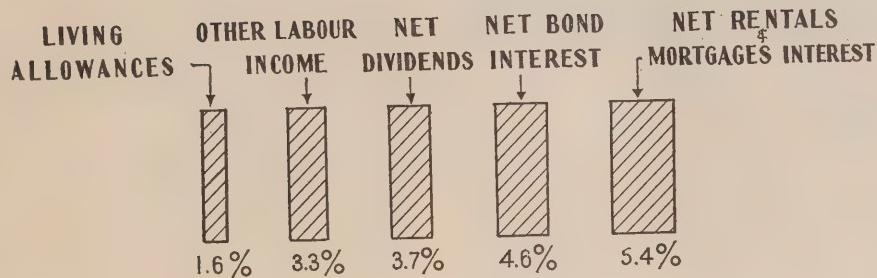
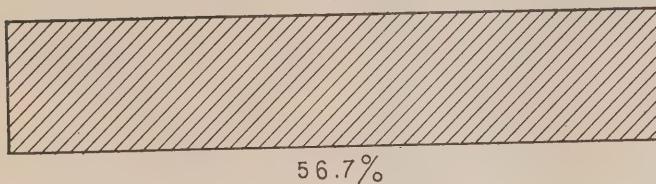
Chart 8

RELATIVE IMPORTANCE
OF
INCOME PAYMENTS TO INDIVIDUALS
IN
CANADA
(Derived from Table 6)

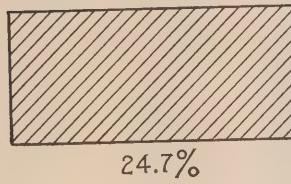
% OF TOTAL INCOME PAYMENTS

1919 - 1938

SALARIES & WAGES



WITHDRAWALS



WITHDRAWALS BY WORKING PROPRIETORS.—The best statistics of the number of working proprietors are given in the industrial section of the decennial census reports. Intercensal years were estimated according to the number of establishments or smoothed data of employment. The rates were estimated for the Census period of 1930-1931 as a differential over employee rates in the same industrial and service groups. The fluctuations between Census years were interpolated according to smoothed employee rates. The products of the numbers, by rates, were taken as the withdrawals of working proprietors.

DIVIDENDS.—Dividends paid by Canadian corporations contribute greatly to the income of individuals. For example, gross declarations amounted to about \$400,000,000 in 1930, but only a portion of the sum was received by individuals living in Canada. A considerable part was paid to other companies and an even larger sum to shareholders living abroad. On the other hand, dividends earned and paid by external companies were received in considerable amount by Canadian shareholders. The amount of net dividends paid by Canadian companies is determined from the annual compilation of the Income Tax Division and the examination of a large sample of company accounts.

BOND AND MORTGAGE INTEREST.—A similar procedure is followed in computing the amount of bond interest received by individuals. An adjustment for interest payments going abroad and for interest received by individuals from external sources is necessary. Unfortunately it is not possible to allocate exactly these payments by industrial

groups and the adjustment is mainly restricted to national totals.

Interest payments on mortgages are chiefly paid to three main groups making loans on real estate:—(a) various government agencies, (b) financial corporations such as insurance, mortgage, trust, loan, banking and railway corporations and (c) individuals.

It is possible to estimate the amount of mortgage interest paid to individuals by utilizing the decennial Census and the annual reports of the Dominion and various Provincial governments and the financial statements of insurance, mortgage, trust, bank and railway companies. Interest on mortgages held by individuals is divided into liens on farms and on non-farm property. The latter covers business and industrial property as well as residential, the total being segregated under the industrial group of real estate.

NET RENTALS.—Net rentals, whether for residential or business property, are an important form of return on investment. Offsetting expenses, such as taxes, interest on mortgages, fire insurance, repairs, depreciation, and costs incidental to the ownership of property are deducted and allowances have been made for vacancies and non-collection of rents on rented properties to obtain the net return. An estimate of imputed rent for owner-occupied houses is also included. While a house is a consumption good, the occupation of it involves an addition to the income of the owner-occupant. The net imputed rental is estimated on the basis of actual rents paid for houses of similar type and location.

TABLE No. 6—NATIONAL INCOME PAYMENTS TO INDIVIDUALS IN THOUSAND DOLLARS, 1919-1938.

Year	Total	Salaries and Wages	Living Allowances	Other Labour Income	Withdrawals of Working Proprietors	Net Dividends	Net Bond Interest	Net Rentals and Mortgage Interest
1919.....	3,987,837	2,037,886	66,186	289,106	1,196,565	111,788	98,334	187,972
1920.....	4,460,061	2,487,404	67,340	100,123	1,330,166	137,707	133,551	203,770
1921.....	3,802,253	2,100,254	63,745	75,648	1,085,889	115,767	144,588	216,362
1922.....	3,686,618	2,033,191	59,841	65,710	1,009,960	122,675	161,857	233,384
1923.....	3,833,607	2,178,470	61,286	66,614	1,036,630	117,848	140,693	237,066
1924.....	3,815,730	2,145,809	64,450	66,398	1,015,343	128,444	154,185	241,101
1925.....	3,908,301	2,208,727	64,985	65,816	1,024,275	136,586	166,800	241,112
1926.....	4,142,572	2,363,226	71,211	67,822	1,067,971	164,989	168,079	239,274
1927.....	4,362,912	2,512,181	74,615	72,076	1,123,930	163,261	174,259	242,590
1928.....	4,642,649	2,695,160	81,450	78,760	1,164,565	195,000	175,143	252,571
1929.....	4,810,249	2,818,781	86,158	83,204	1,186,303	193,610	186,470	255,723
1930.....	4,578,579	2,645,650	82,834	99,607	1,076,892	210,000	200,096	263,500
1931.....	4,041,077	2,300,218	66,440	129,546	897,314	189,000	203,360	255,199
1932.....	3,450,492	1,954,112	53,823	155,378	737,345	125,866	226,159	197,809
1933.....	3,212,220	1,788,907	51,589	173,134	699,698	107,200	231,663	160,029
1934.....	3,400,314	1,919,345	53,470	210,678	727,054	113,600	235,358	140,809
1935.....	3,627,138	2,051,365	56,178	220,525	769,141	131,500	239,391	159,038
1936.....	3,822,828	2,187,211	55,467	214,561	812,091	138,100	229,673	185,725
1937.....	4,200,251	2,450,637	58,644	222,451	877,911	159,700	225,227	205,681
1938.....	4,244,685	2,463,560	59,322	202,135	896,365	166,800	226,300	230,203

Data: National Income of Canada, 1919-1938. Part I.

Chart 9

INCOME PAYMENTS TO INDIVIDUALS BY YEARS

1919 - 1938
(See Table 6)

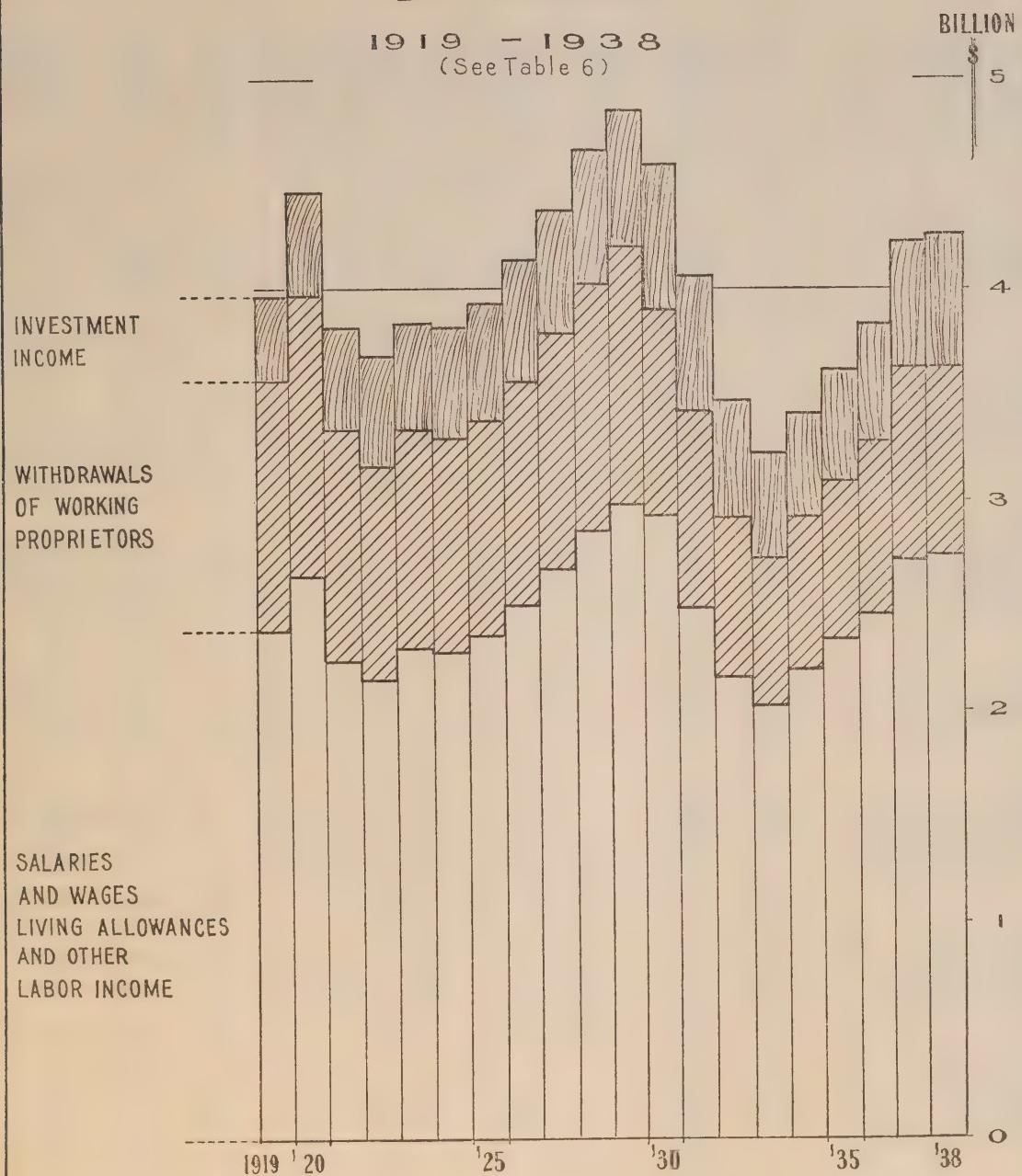


TABLE 7 — INCOME PAYMENTS BY PRODUCTIVE SOURCES AND BY TYPES FOR CANADA AND THE PROVINCES, IN THOUSAND DOLLARS, 1938.

	Canada	Prince Edward Island	Nova Scotia	New Brunsw- ick	Quebec	Ontario	Mani- toba	Saskat- chewan	Alberta	British Colum- bia
All Industries										
Salaries and Wages.....	(1) 2,463,560	8,460	97,304	66,741	635,683	1,042,096	149,743	97,826	132,262	233,446
Living Allowances.....	(1) 59,322	845	2,408	2,437	18,744	14,950	5,298	7,100	5,704	1,835
Other Labour Income.....	202,135	609	3,458	4,718	36,961	72,020	17,414	31,352	13,592	22,011
Withdrawals.....	896,365	8,239	36,666	32,073	195,499	300,794	58,774	95,909	96,143	72,268
Dividends and Interest.....	393,100	3,891	13,953	9,474	100,397	207,006	21,110	4,717	8,531	24,021
Other Property Income.....	230,203	1,110	9,330	6,002	68,947	96,494	8,937	11,173	12,063	19,147
Total.....	4,244,685	23,154	163,119	121,445	1,053,231	1,733,360	261,276	248,077	268,295	372,728
Agriculture										
Salaries and Wages.....	72,400	637	1,410	1,740	5,930	20,661	8,348	13,159	15,892	4,623
Living Allowances.....	47,502	765	1,808	1,958	13,604	12,028	4,694	6,336	4,962	1,347
Withdrawals.....	414,732	5,488	15,442	16,583	75,317	111,547	31,395	70,622	68,481	19,857
Mortgage Interest.....	17,302	224	239	267	3,359	6,894	958	2,627	1,873	861
Total.....	551,936	7,114	18,899	20,548	98,210	151,130	45,395	92,744	91,208	26,688
Forestry										
Salaries and Wages.....	122,367	212	4,369	8,990	39,923	30,677	1,570	1,031	1,747	33,848
Living Allowances.....	106	2	5	3	70	14	1	1	1	10
Other Labour Income.....	3,851	.....	103	225	1,324	753	10	25	74	1,337
Withdrawals.....	10,891	26	555	451	4,393	2,003	139	163	233	2,928
Dividends and Interest.....	9,949	99	353	240	2,541	5,239	534	119	216	608
Total.....	147,164	339	5,385	9,909	48,251	38,686	2,254	1,339	2,270	38,731
Fisheries										
Salaries and Wages.....	9,980	317	2,447	1,230	418	771	299	96	484	3,918
Living Allowances.....	222	8	53	45	97	5	4	2	2	6
Other Labour Income.....	217	11	93	48	19	.....	.....	.....	.....	46
Withdrawals.....	16,348	774	4,375	3,307	2,456	1,078	590	501	778	2,489
Dividends and Interest.....	32	.....	1	1	8	17	2	.....	1	2
Total.....	26,799	1,110	6,969	4,631	2,998	1,871	895	599	1,265	6,461
Trapping										
Salaries and Wages.....	284	.....	12	26	46	36	22	23	22	97
Withdrawals.....	5,841	5	237	536	941	733	453	477	450	2,009
Total.....	6,125	5	249	562	987	769	475	500	472	2,106
Mining										
Salaries and Wages.....	145,644	.....	19,933	1,557	19,675	58,500	4,680	2,417	14,781	24,101
Other Labour Income.....	3,368	.....	526	43	527	1,190	24	53	472	533
Withdrawals.....	8,767	.....	100	63	709	2,503	1,053	211	374	3,754
Dividends and Interest.....	57,602	570	2,045	1,388	14,712	30,333	3,093	691	1,250	3,520
Total.....	215,381	570	22,604	3,051	35,623	92,526	8,850	3,372	16,877	31,908
Electric Power										
Salaries and Wages.....	27,149	73	1,026	609	6,396	12,362	1,993	964	1,032	2,694
Other Labour Income.....	331	.....	3	98	139	11	15	2	2	63
Dividends and Interest.....	41,411	410	1,470	998	10,576	21,807	2,224	497	899	2,530
Total.....	68,891	483	2,496	1,610	17,070	34,308	4,228	1,476	1,933	5,287
Manufactures n.e.s.										
Salaries and Wages.....	609,608	537	12,780	8,540	182,491	333,427	27,002	6,631	13,365	24,835
Other Labour Income.....	3,721	.....	77	79	1,009	1,988	150	63	103	252
Withdrawals.....	41,780	98	1,261	855	12,333	18,170	2,115	1,346	1,555	4,047
Dividends and Interest.....	44,482	440	1,579	1,072	11,361	23,424	2,389	534	965	2,718
Total.....	699,591	1,075	15,697	10,546	207,194	377,009	31,656	8,574	15,988	31,852

(1) Due to rounding, detailed amounts will not always add to grand totals.

TABLE No. 7 — INCOME PAYMENTS BY PRODUCTIVE SOURCES AND BY TYPES FOR CANADA AND THE PROVINCES, IN THOUSAND DOLLARS, 1938. — Continued.

	Canada	Prince Edward Island	Nova Scotia	New Brunsw- ick	Quebec	Ontario	Mani- toba	Saskat- chewan	Alberta	British Colum- bia
Construction										
Salaries and Wages.....	112,595	453	6,411	4,853	34,185	45,306	4,012	3,447	4,487	9,441
Other Labour Income.....	1,969	.....	28	92	522	1,023	26	31	73	174
Withdrawals.....	34,810	73	1,249	993	9,331	16,558	1,565	790	1,112	3,139
Dividends and Interest.....	285	3	10	7	73	150	15	3	6	18
Total.....	149,659	529	7,698	5,945	44,111	63,037	5,618	4,271	5,678	12,772
Custom and Repair										
Salaries and Wages.....	36,936	133	1,164	797	9,896	15,893	1,976	1,308	1,662	4,107
Other Labor Income.....	150	1	5	3	40	64	8	5	7	17
Withdrawals.....	27,225	257	1,198	831	7,104	9,875	1,800	2,031	1,898	2,231
Dividends and Interest.....	4,549	45	161	110	1,162	2,395	244	55	99	278
Total.....	68,860	436	2,528	1,741	18,202	28,227	4,028	3,399	3,666	6,633
Steam Railways										
Salaries and Wages.....	184,356	904	6,390	9,556	44,243	56,572	21,743	14,659	14,971	15,318
Other Labour Income.....	9,563	47	331	496	2,295	2,934	1,128	760	777	795
Dividends and Interest.....	19,639	194	697	473	5,016	10,342	1,055	236	426	1,200
Total.....	213,558	1,145	7,418	10,525	51,554	69,848	23,926	15,655	16,174	17,313
Electric Railways										
Salaries and Wages.....	20,101	.....	347	135	6,209	7,800	1,414	262	734	3,200
Other Labour Income.....	770	.....	13	5	243	293	55	10	28	123
Dividends and Interest.....	3,561	35	126	86	910	1,875	191	43	77	218
Total.....	24,432	35	486	226	7,362	9,968	1,660	315	839	3,541
Water Transport										
Salaries and Wages.....	36,664	232	4,364	1,174	11,579	9,118	495	101	162	9,439
Other Labour Income.....	737	5	88	24	233	183	10	2	3	189
Withdrawals.....	1,580	21	223	64	472	407	6	15	9	363
Dividends and Interest.....	621	6	22	15	159	328	33	7	13	38
Total.....	39,602	264	4,697	1,277	12,443	10,036	544	125	187	10,029
Road Transport										
Salaries and Wages.....	20,256	38	604	388	7,509	7,265	1,078	622	930	1,822
Other Labour Income.....	382	1	11	7	142	137	20	12	18	34
Withdrawals.....	15,979	95	747	462	3,843	6,016	867	1,173	1,211	1,565
Total.....	36,617	134	1,362	857	11,494	13,418	1,965	1,807	2,159	3,421
Civil Aviation										
Salaries and Wages.....	1,551	.....	15	33	431	493	231	86	147	115
Withdrawals.....	119	.....	2	.....	24	18	7	24	21	23
Total.....	1,670	.....	17	33	455	511	238	110	168	138
Storage										
Salaries and Wages.....	3,712	.....	15	32	663	1,157	617	271	389	568
Other Labour Income.....	20	.....	.....	.....	3	6	4	2	2	3
Withdrawals.....	479	.....	11	9	30	196	36	45	60	92
Dividends and Interest.....	495	5	18	12	126	260	27	6	11	30
Total.....	4,706	5	44	53	822	1,619	684	324	462	693
Express										
Salaries and Wages.....	7,223	29	285	314	1,280	3,319	707	420	492	377
Other Labour Income.....	169	.....	7	7	30	77	17	10	12	9
Total.....	7,392	29	292	321	1,310	3,396	724	430	504	386
Telegraph										
Salaries and Wages.....	8,530	29	633	359	2,027	3,257	527	372	561	765
Other Labour Income.....	291	1	22	12	69	111	18	13	19	26
Total.....	8,821	30	655	371	2,096	3,368	545	385	580	791

TABLE 7 — INCOME PAYMENTS BY PRODUCTIVE SOURCES AND BY TYPES FOR CANADA AND THE PROVINCES, IN THOUSAND DOLLARS, 1938.—Continued.

	Canada	Prince Edward Island	Nova Scotia	New Brunsw- ick	Quebec	Ontario	Mani- toba	Saskat- chewan	Alberta	British Colum- bia
Telephone										
Salaries and Wages.....	26,020	68	762	566	6,746	11,376	1,552	903	1,147	2,900
Other Labour Income.....	715	2	21	16	185	312	43	25	31	80
Dividends and Interest.....	9,980	99	354	241	2,549	5,255	536	120	216	610
Total.....	36,715	169	1,137	823	9,480	16,943	2,131	1,048	1,394	3,590
Retail Trade										
Salaries and Wages.....	214,261	765	6,785	5,321	49,685	93,773	15,514	10,998	11,979	19,441
Other Labour Income.....	672	2	19	15	142	269	69	40	46	70
Withdrawals.....	116,933	662	5,596	3,500	29,166	46,172	5,833	8,602	7,910	9,492
Dividends and Interest.....	12,174	121	432	293	3,109	6,411	654	146	264	744
Total.....	344,040	1,550	12,832	9,129	82,102	146,625	22,070	19,786	20,199	29,747
Wholesale Trade										
Salaries and Wages.....	131,127	292	3,224	3,359	34,489	48,869	14,830	6,404	8,314	11,346
Other Labour Income.....	113	—	4	5	49	55	—	—	—	—
Withdrawals.....	14,993	89	414	286	5,129	5,918	1,381	296	493	987
Dividends and Interest.....	16,967	168	602	409	4,333	8,935	911	204	368	1,037
Total.....	163,200	549	4,244	4,059	44,000	63,777	17,122	6,904	9,175	13,370
Banking										
Salaries and Wages.....	34,883	157	1,084	758	9,376	14,710	2,206	2,095	2,021	2,476
Other Labour Income.....	2,732	12	85	59	735	1,152	173	164	158	194
Dividends and Interest.....	9,596	95	341	231	2,451	5,053	516	115	208	586
Total.....	47,211	264	1,510	1,048	12,562	20,915	2,895	2,374	2,387	3,256
Trust Companies										
Salaries and Wages.....	5,929	8	134	72	1,772	2,649	458	214	233	389
Dividends and Interest.....	1,940	19	69	47	495	1,022	104	23	42	119
Total.....	7,869	27	203	119	2,267	3,671	562	237	275	508
Stock and Bond Dealers										
Salaries and Wages.....	14,661	33	339	241	4,224	7,100	743	346	460	1,175
Withdrawals.....	6,890	15	178	108	1,978	3,390	298	166	212	545
Dividends and Interest.....	2,709	27	96	65	692	1,426	145	33	59	166
Total.....	24,260	75	613	414	6,894	11,916	1,186	545	731	1,886
Loan and Mortgage										
Salaries and Wages.....	1,405	1	32	17	420	628	109	51	55	92
Dividends and Interest.....	1,425	14	51	34	364	750	77	17	31	87
Total.....	2,830	15	83	51	784	1,378	186	68	86	179
Insurance										
Salaries and Wages.....	68,910	139	1,811	1,221	19,688	34,041	4,725	1,969	2,166	3,150
Other Labour Income.....	296	—	8	5	86	146	20	8	9	14
Dividends and Interest.....	2,517	25	89	61	643	1,325	135	30	55	154
Total.....	71,723	164	1,908	1,287	20,417	35,512	4,880	2,007	2,230	3,318
Real Estate										
Salaries and Wages.....	2,459	—	28	19	527	1,040	231	111	165	338
Withdrawals.....	3,482	2	68	35	679	1,332	227	261	322	556
Dividends and Interest.....	2,297	23	82	55	586	1,210	123	28	50	140
Other Property Income.....	212,901	886	9,091	5,735	62,588	89,600	7,979	8,546	10,190	18,286
Total.....	221,139	911	9,269	5,844	64,380	93,182	8,560	8,946	10,727	19,320
Government										
Salaries and Wages.....	221,945	2,258	9,526	7,087	52,572	86,225	13,045	14,253	14,213	22,766
Other Labour Income.....	168,476	514	1,885	3,485	28,316	59,669	15,408	29,939	11,535	17,725
Dividends and Interest.....	124,061	1,228	4,404	2,990	31,685	65,331	6,662	1,489	2,692	7,580
Total.....	514,482	4,000	15,815	13,562	112,573	211,225	35,115	45,681	28,440	48,071

TABLE 7 — INCOME PAYMENTS BY PRODUCTIVE SOURCES AND BY TYPES FOR CANADA AND THE PROVINCES, IN THOUSAND DOLLARS, 1938. — Continued.

	Canada	Prince Edward Island	Nova Scotia	New Brun- swick	Quebec	Ontario	Mani- toba	Saskat- chewan	Alberta	British Colum- bia
Professional										
Salaries and Wages.....	68,142	260	2,471	1,686	15,659	30,959	4,136	3,334	3,472	6,165
Living Allowances.....	5,635	16	211	181	3,184	1,161	254	172	295	161
Other Labour Income.....	1,092	4	40	27	251	496	66	53	56	99
Withdrawals.....	85,281	403	2,838	2,566	17,661	38,546	5,589	4,542	4,690	8,446
Dividends and Interest.....	2,528	25	90	61	645	1,331	136	30	56	154
Total.....	162,678	708	5,650	4,521	37,400	72,493	10,181	8,131	8,569	15,025
Education										
Salaries and Wages.....	91,336	479	4,028	2,642	18,580	38,717	6,056	5,097	7,675	7,252
Living Allowances.....	3,814	36	193	141	1,181	1,139	229	384	296	215
Other Labour Income.....	1,175	6	52	34	244	493	78	78	98	92
Withdrawals.....	1,050	6	47	31	216	440	71	69	88	82
Dividends and Interest.....	5,675	56	201	137	1,449	2,989	305	68	123	347
Total.....	103,050	583	4,521	2,985	21,670	43,778	6,739	6,506	8,280	7,988
Other Services										
Salaries and Wages.....	163,127	406	4,875	3,419	49,044	65,395	9,424	5,372	8,504	16,688
Living Allowances.....	2,042	18	138	109	608	603	116	205	149	96
Other Labour Income.....	1,325	3	40	28	399	530	76	44	69	136
Withdrawals.....	89,185	225	2,125	1,393	23,717	35,892	5,349	4,575	6,246	9,663
Dividends and Interest.....	18,605	184	660	448	4,752	9,798	999	223	404	1,137
Total.....	274,284	836	7,838	5,397	78,520	112,218	15,964	10,419	15,372	27,720

CHAPTER IV

Personnel

A summary of the personnel is an essential step in a study of the structure of the Canadian economy. The income of the country is dependent upon the volume of production which in turn is greatly affected by the number engaged.

The gainfully occupied may be segregated for analysis into three classes. The working proprietor or enterpriser is a person conducting an enterprise which he controls. Some enterprisers have other persons working for them. Others are independent workers like many farmers, small retailers and doctors. The essential fact distinguishing the enterpriser from the employee is that he takes the risk of the enterprise and does not receive for his services a fixed rate of compensation. The difference between the "employee" and the so-called "unpaid labourer" is that the latter receives no fixed remuneration in cash, the payment being limited to a living allowance mainly in kind.

SCALE FOR DETERMINATION OF THE NUMBER OF PRODUCING AND CONSUMING UNITS.

Source: Population Trends in the United States,
Pages 168-172.

AGE	Producing Units Weights Assigned to Different Ages		Consuming Units Weights Assigned to Different Ages	
	Male	Female	Male	Female
0- 4.....	0.00	0.00	0.30	0.30
5- 9.....	0.00	0.00	0.40	0.40
10-14.....	0.00	0.00	0.60	0.60
15-19.....	0.50	0.25	0.85	0.75
20-24.....	1.00	0.50	1.00	0.80
25-29.....	1.00	0.50	1.00	0.80
30-34.....	1.00	0.50	1.00	0.80
35-44.....	1.00	0.50	0.95	0.80
45-54.....	0.80	0.40	0.90	0.75
55-64.....	0.60	0.30	0.85	0.70
65-74.....	0.40	0.20	0.70	0.65
75+.....	0.10	0.00	0.55	0.55
Unknown.....	0.75	0.40	0.80	0.70

The process of estimating the number of producing and consuming units consists of two steps. The percentages appearing on page 36 of the Canadian Life Tables, Census of Canada 1931, were applied to data in tables commencing on page 404 of Volume 1, Population Census of Canada for the same year. The result was comprehensive data by age and sex by years from 1919 to 1940. The scales appearing on pages 166 to 171 of "Population Trends of the United States" by Thompson and Whelpton were then applied to obtain the number of consuming and producing units, year by year from 1919 to 1940.

It was estimated that slightly more than one-third (34.4 per cent) of the population was gainfully occupied on a full-time basis during the inter-war period. As the growth in the population was more rapid, the proportion engaged in productive enterprise was considerably less during the latter part of the period than in the years immediately following the last war. Even from 1919 to 1929 the proportion receded from 38.6 per cent to 37.3 per cent, but the important shift came in the last decade with a percentage of only 32.9 in 1938. This relative increase in the idle population had a significant bearing upon the problem of the potential manpower for war activities, and by the end of 1942 a high proportion of the population actively participated in productive pursuits in addition to heavy enlistment in the armed forces.

Classification of the population and the rates of remuneration are given from 1919 to 1938 in Table 8 and Chart 10.

Considerable information is given regarding the number of the gainfully occupied during 1938 classified according to industry and status in Canada and the provinces. The statistics are subject to revision upon the receipt of further information.

Chart 10

**NUMBER OF CONSUMERS
AND
PRODUCERS IN CANADA**

1919 - 1938
(See Table 8)

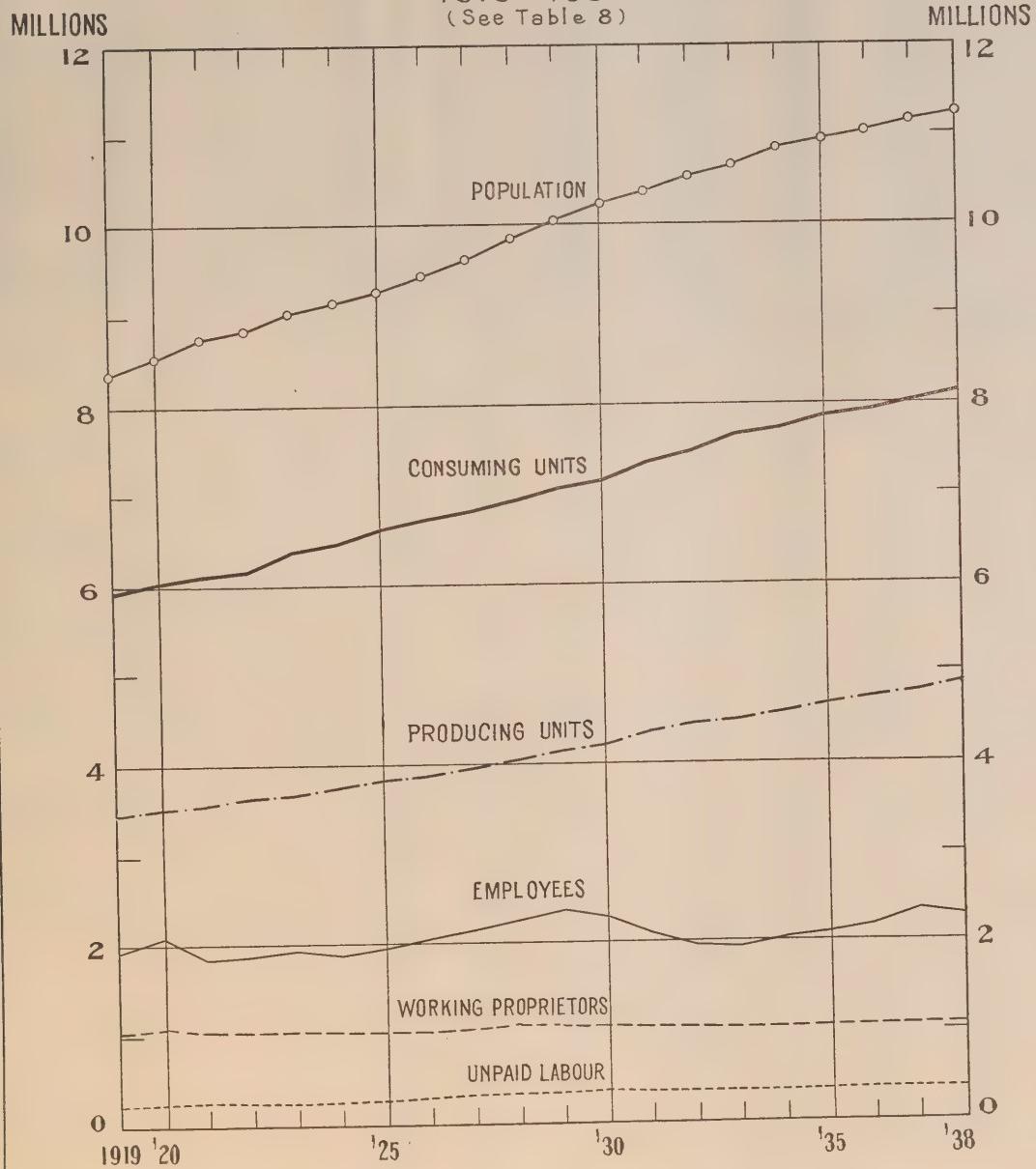


TABLE 8—CANADIAN PERSONNEL WITH RATES OF REMUNERATION, 1919-1938.

Year	Population	Consuming Units	Producing Units	Employees	Annual Rates	Unpaid Labour	Annual Rates of Living Allowances	Working Proprietors	Annual Withdrawal Rates
	000	000	000	000	\$	000	\$	000	\$
1919.....	8,311	5,914	3,446	1,937	1,052	227	291	1,044	1,147
1920.....	8,556	6,025	3,511	2,067	1,203	236	286	1,050	1,267
1921.....	8,788	6,132	3,566	1,819	1,154	257	248	1,031	1,053
1922.....	8,919	6,197	3,631	1,851	1,098	256	234	1,024	986
1923.....	9,010	6,370	3,699	1,928	1,130	251	245	1,016	1,020
1924.....	9,143	6,491	3,765	1,893	1,134	266	242	1,008	1,007
1925.....	9,294	6,611	3,838	1,937	1,140	269	242	1,005	1,019
1926.....	9,451	6,719	3,892	2,030	1,164	290	246	1,006	1,061
1927.....	9,637	6,839	3,965	2,132	1,178	303	247	1,035	1,086
1928.....	9,835	6,966	4,043	2,261	1,192	324	252	1,056	1,103
1929.....	10,029	7,091	4,128	2,331	1,209	340	254	1,072	1,107
1930.....	10,208	7,167	4,200	2,292	1,154	357	232	1,053	1,022
1931.....	10,376	7,377	4,337	2,084	1,103	334	199	1,036	867
1932.....	10,506	7,485	4,413	1,939	1,008	332	162	1,015	727
1933.....	10,681	7,644	4,494	1,910	937	329	157	1,004	697
1934.....	10,824	7,704	4,568	2,020	950	326	164	1,018	715
1935.....	10,935	7,843	4,656	2,097	978	329	171	1,029	748
1936.....	11,028	7,915	4,726	2,173	1,006	335	166	1,043	779
1937.....	11,120	8,009	4,796	2,303	1,064	336	175	1,064	825
1938.....	11,209	8,110	4,871	2,288	1,077	339	175	1,064	843

Data: National Income of Canada, 1919-1938, Part I.

TABLE 9 — THE GAINFULLY OCCUPIED ON FULL-TIME BASIS BY INDUSTRIAL GROUPS, STATUS AND PROVINCES, 1938.

	Canada	Prince Edward Island	Nova Scotia	New Brunsw- ick	Quebec	Ontario	Mani- toba	Saskat- chewan	Alberta	British Columbia
Agriculture, Employees.....	141,394	1,535	2,837	3,339	12,151	42,080	17,355	27,471	26,710	7,916
Working Proprietors.....	663,648	11,131	26,396	26,703	117,136	171,877	53,121	132,003	99,392	28,889
No Pays.....	285,104	4,810	10,637	12,882	90,096	65,728	28,278	39,599	27,413	5,661
Total.....	1,090,146	17,476	39,870	42,924	219,383	279,685	98,754	199,073	153,515	39,466
Forestry Primary, Employees.....	75,922	265	3,801	6,553	23,577	18,901	1,377	1,387	1,695	18,366
Working Proprietors.....	5,317	.....	366	281	2,050	929	52	64	77	1,498
No Pays.....	1,201	25	55	38	837	142	13	12	3	76
Total.....	82,440	290	4,222	6,872	26,464	19,972	1,442	1,463	1,775	19,940
Forestry Secondary, Employees.....	62,125	85	2,258	4,635	23,711	14,552	745	382	1,051	14,706
Working Proprietors.....	2,231	42	172	122	1,004	347	40	69	105	330
Total.....	64,356	127	2,430	4,757	24,715	14,899	785	451	1,156	15,036
Fisheries Primary, Employees.....	10,742	511	2,700	1,642	775	1,075	801	158	708	2,372
Working Proprietors.....	26,610	1,241	7,032	5,682	5,119	1,233	1,298	675	934	3,396
No Pays.....	3,790	141	903	765	1,660	83	70	31	39	98
Total.....	41,142	1,893	10,635	8,089	7,554	2,391	2,169	864	1,681	5,866
Fisheries Secondary, Employees.....	5,177	256	1,933	825	493	.....	.....	.....	.....	1,670
Working Proprietors.....	183	51	43	23	60	.....	.....	.....	.....	6
Total.....	5,360	307	1,976	848	553	.....	.....	.....	.....	1,676
Trapping Employees.....	649	.....	28	60	104	83	50	53	50	221
Working Proprietors.....	9,217	11	424	904	1,532	1,183	802	936	884	2,741
Total.....	9,866	11	452	964	1,636	1,266	852	989	734	2,962
Mining Employees.....	107,275	.....	15,591	3,042	20,829	35,791	2,840	2,287	10,612	16,283
Working Proprietors.....	4,892	.....	78	74	484	1,221	547	157	249	2,082
Total.....	112,167	.....	15,669	3,116	21,313	37,012	3,387	2,444	10,861	18,365
Electric Power Employees.....	17,929	65	1,060	504	4,405	7,524	1,411	566	631	1,763
Total.....	17,929	65	1,060	504	4,405	7,524	1,411	566	631	1,763
Manufactures n.e.s. Employees.....	557,221	700	12,326	8,364	186,468	288,600	22,222	5,560	11,231	21,750
Working Proprietors.....	22,188	102	793	528	7,217	9,087	1,064	687	799	1,911
Total.....	579,409	802	13,119	8,892	193,685	297,687	23,286	6,247	12,030	23,661
Construction Employees.....	121,913	572	6,542	5,889	40,465	46,085	4,140	4,966	4,138	9,116
Working Proprietors.....	25,278	64	983	582	6,141	12,025	1,337	677	880	2,589
Total.....	147,191	636	7,525	6,471	46,606	58,110	5,477	5,643	5,018	11,705
Custom and Repair Employees.....	41,972	227	1,447	1,056	11,856	16,025	2,705	1,935	2,143	4,578
Working Proprietors.....	28,840	344	1,395	977	7,952	9,765	1,957	2,210	1,923	2,317
Total.....	70,812	571	2,842	2,033	19,808	25,790	4,662	4,145	4,066	6,895
Steam Railway Employees.....	120,731	685	4,657	6,372	28,793	36,369	14,626	9,460	9,520	10,249
Total.....	120,731	685	4,657	6,372	28,793	36,369	14,626	9,460	9,520	10,249
Electric Railway Employees.....	14,323	.....	217	125	4,724	5,338	1,140	194	487	2,098
Total.....	14,323	.....	217	125	4,724	5,338	1,140	194	487	2,098
Road Transport Employees.....	20,797	55	739	476	7,561	7,594	1,110	737	904	1,621
Working Proprietors.....	14,990	126	839	521	3,550	5,499	820	1,276	1,080	1,279
Total.....	35,787	181	1,578	997	11,111	13,093	1,930	2,013	1,984	2,900

TABLE 9 — THE GAINFULLY OCCUPIED ON FULL-TIME BASIS BY INDUSTRIAL GROUPS, STATUS AND PROVINCES, 1938. — Continued.

	Canada	Prince Edward Island	Nova Scotia	New Brunsw- ick	Quebec	Ontario	Mani- toba	Saskat- chewan	Alberta	British Colum- bia
Water Transport Employees.....	26,793	212	3,628	1,016	8,478	6,746	325	107	126	6,155
Working Proprietors.....	827	14	131	39	244	213	3	11	5	167
Total.....	27,620	226	3,759	1,055	8,722	6,959	328	118	131	6,322
Civil Aviation Employees.....	1,000		14	26	273	328	129	52	87	91
Working Proprietors.....	75		2		13	12	4	14	12	18
Total.....	1,075		16	26	286	340	133	66	99	109
Storage Employees.....	3,045		10	21	541	931	602	215	279	446
Working Proprietors.....	205		4	3	13	85	19	19	23	39
Total.....	3,250		14	24	554	1,016	621	234	302	485
Express Employees.....	4,715	20	213	215	825	2,237	420	250	309	226
Total.....	4,715	20	213	215	825	2,237	420	250	309	226
Telegraph Employees.....	6,597	25	473	294	1,618	2,549	392	270	410	566
Total.....	6,597	25	473	294	1,618	2,549	392	270	410	566
Telephone Employees.....	17,925	88	748	575	4,181	7,101	1,090	627	1,070	2,445
Total.....	17,925	88	748	575	4,181	7,101	1,090	627	1,070	2,445
Retail Trade Employees.....	234,714	1,114	9,018	6,501	58,284	100,236	16,018	11,793	11,842	19,908
Working Proprietors.....	107,000	742	5,489	3,694	27,666	39,465	6,327	7,416	6,508	9,693
Total.....	341,714	1,856	14,507	10,195	85,950	139,701	22,345	19,209	18,350	29,601
Wholesale Trade Employees.....	91,925	297	2,635	2,697	24,409	33,820	10,158	4,706	5,568	7,635
Working Proprietors.....	8,818	62	327	244	2,187	3,132	1,036	346	452	1,032
Total.....	100,743	359	2,962	2,941	26,596	36,952	11,194	5,052	6,020	8,667
Banking Employees.....	24,775	137	871	630	6,935	10,264	1,463	1,415	1,369	1,691
Total.....	24,775	137	871	630	6,935	10,264	1,463	1,415	1,369	1,691
Trust Companies Employees.....	3,646	6	71	51	1,112	1,592	269	131	140	274
Total.....	3,646	6	71	51	1,112	1,592	269	131	140	274
Stock and Bond Dealers Employees.....	8,167	23	166	162	2,093	4,002	391	252	279	799
Working Proprietors.....	3,010	8	61	57	777	1,483	130	95	103	296
Total.....	11,177	31	227	219	2,870	5,485	521	347	382	1,095
Loan and Mortgage Employees.....	864	1	17	12	263	378	64	31	33	65
Total.....	864	1	17	12	263	378	64	31	33	65
Insurance Employees.....	33,697	83	858	624	9,583	16,545	2,330	907	980	1,787
Total.....	33,697	83	858	624	9,583	16,545	2,330	907	980	1,787
Real Estate Employees.....	1,697		18	13	312	700	169	89	115	281
Working Proprietors.....	2,295	2	41	23	380	845	157	197	213	437
Total.....	3,992	2	59	36	692	1,545	326	286	328	718
Government Dominion Employees.....	55,509	570	3,896	2,052	9,891	24,732	3,285	3,122	3,289	4,672
Total.....	55,509	570	3,896	2,052	9,891	24,732	3,285	3,122	3,289	4,672
Government Provincial Employees.....	40,642	801	1,943	1,832	11,527	10,132	2,137	3,962	2,891	5,417
Total.....	40,642	801	1,943	1,832	11,527	10,132	2,137	3,962	2,891	5,417

TABLE 9—THE GAINFULLY OCCUPIED ON FULL-TIME BASIS BY INDUSTRIAL GROUPS, STATUS AND PROVINCES, 1938. — Concluded.

	Canada	Prince Edward Island	Nova Scotia	New Brunsw- ick	Quebec	Ontario	Mani- toba	Saskat- chewan	Alberta	British Colum- bia
Government Municipal Employees.....	52,506	151	1,327	930	17,204	20,223	2,942	2,007	2,983	4,739
Total.....	52,506	151	1,327	930	17,204	20,223	2,942	2,007	2,983	4,739
Professional Employees.....	73,192	371	3,015	1,747	18,411	30,895	4,593	3,848	3,728	6,584
Working Proprietors.....	44,767	303	1,695	1,302	10,165	18,821	3,037	2,568	2,465	4,411
No Pays.....	22,539	63	841	705	13,765	4,263	897	574	968	463
Total.....	140,498	737	5,551	3,754	42,341	53,979	8,527	6,990	7,161	11,458
Education Employees.....	72,445	680	3,662	2,680	22,442	21,636	4,354	7,295	5,617	4,079
Working Proprietors.....	868	8	44	32	270	259	52	87	67	49
No Pays.....	15,254	143	771	565	4,726	4,556	915	1,536	1,183	859
Total.....	88,567	831	4,477	3,277	27,438	26,451	5,321	8,918	6,867	4,987
Other Service Employees.....	235,956	645	1,071	7,899	76,502	89,157	15,542	12,320	12,382	20,438
Working Proprietors.....	92,612	462	3,258	2,283	25,270	33,408	6,133	7,235	6,321	8,242
No Pays.....	11,600	101	784	619	3,448	3,428	661	1,166	847	546
Total.....	340,168	1,208	5,113	10,801	105,220	125,993	22,336	20,721	19,550	29,226
Grand Totals—Employees.....	2,287,980	10,180	89,790	72,859	640,796	904,221	137,195	108,555	123,377	201,007
Working Proprietors.....	1,063,871	14,713	49,573	44,074	219,230	310,889	77,936	156,742	122,292	68,422
No Pays.....	339,488	5,283	13,991	15,574	114,532	78,200	30,834	42,918	30,453	7,703
Total.....	3,691,339	30,176	153,354	132,507	974,558	1,293,310	245,965	308,215	276,122	277,132

CHAPTER V

Distribution by Income Classes

Interest attaches to the distribution of income recipients in Canada according to the size of income. Basic data bearing on this topic is presented by the decennial Census and by the records of the Income Tax Division. The distribution of employees by size of earnings was reported on page 78 of Volume 5 of the Census of Canada, 1931. The Income Tax Division presented a frequency table showing the number of individual tax-payers by income groups for the same calendar year.

A ten per cent sample of wage earners classified by amount of wages was taken by hand count in connection with the decennial Census of 1941. Income tax data is presently available for the calendar year 1938. The statistics are presented in Tables 10 to 13. Corresponding information regarding the provincial distribution by income classes may be obtained from the same sources.

The census citations, being limited to the salaries and wages received by employees, apply in the main to the lower income brackets. The information from income tax sources, on the other hand, is applicable to the middle and upper brackets, the lower income recipients being eliminated by the exemption regulations. By means of the two tables, the general total of national income and the principle enunciated by Pareto¹, it is possible to prepare a conjectural estimate of the income distribution of the Canadian people at decennial Census periods. Assuming that the income recipients numbered slightly more than four million in 1930-1931, the method leads to the conclusion that only about 1,500,000 were receiving more than \$1,000 each. The sample table indicates that about one million employees received more than \$1,000 in 1941. The number of persons paying income taxes was 293,000 in 1938, the exemptions having been \$1,000 for single persons and \$2,000 for married. Many others in the intermediate brackets were excluded due to the support of dependents. No account is taken in the sample table of working proprietors or so-called unpaid labour receiving living allowances in kind.

A. — DISTRIBUTION OF CANADIAN INCOME DURING 1931.

TABLE 10—EMPLOYEES TEN YEARS OF AGE AND OVER, BY EARNINGS GROUP AND SEX, IN CANADA, 1931.

Source: Census of Canada 1931, Volume 5, Tables 25 and 26, page 78.

Earnings Group	Total		Male		Female	
	Number	Per cent	Number	Per cent	Number	Per cent
Total	2,570,097	100.00	2,022,260	100.00	547,837	100.00
None ⁽¹⁾	67,677	2.63	60,520	2.99	7,157	1.31
\$ 1-\$ 49.....	31,373	1.22	18,332	0.91	13,041	2.38
50- 449.....	795,576	30.96	562,608	27.82	232,968	42.53
450- 949.....	721,945	28.10	537,705	26.59	184,240	33.63
950-1,449.....	472,615	18.39	400,778	19.82	71,837	13.11
1,450-1,949.....	212,742	8.28	198,569	9.82	14,173	2.59
1,950-2,949.....	117,024	4.55	112,539	5.57	4,485	0.82
2,950-4,949.....	44,356	1.72	43,852	2.17	504	0.09
4,950-6,949.....	8,283	0.32	8,243	0.41	40	0.01
6,950-9,949.....	2,748	0.11	2,737	0.14	11	(2)
9,950 and over.....	2,075	0.08	2,074	0.10	1	(2)
Not stated.....	93,683	3.64	74,303	3.67	19,380	3.54

(1) This group contains wage-earners reporting no earnings on account of 52 weeks of unemployment.

(2) Less than one hundredth of one per cent.

TABLE 11 — NUMBER OF INDIVIDUALS AND AMOUNT OF TAX PAID UNDER THE INCOME TAX ACT OF 1917 DURING THE FISCAL YEAR 1932-1933 CLASSIFIED ACCORDING TO INCOME GROUP.

Source: Incomes assessed for Income War Tax in Canada, 1933.

Income Group	Number	Per cent	Amount	Per cent
Under \$2,000.....	63,276	37.90	416,776	1.58
\$2,000- 3,000.....	29,156	17.46	453,936	1.72
3,000- 4,000.....	27,546	16.50	538,647	2.04
4,000- 5,000.....	15,760	9.44	559,397	2.12
5,000- 6,000.....	8,951	5.36	573,859	2.18
6,000- 7,000.....	5,556	3.33	570,900	2.17
7,000- 8,000.....	3,481	2.08	513,383	1.95
8,000- 9,000.....	2,580	1.54	560,968	2.13
9,000-10,000.....	1,962	1.18	562,341	2.13
10,000-15,000.....	4,577	2.74	2,405,573	9.14
15,000-20,000.....	1,653	0.99	1,980,689	7.52
20,000-25,000.....	872	0.52	1,903,341	7.23
25,000-30,000.....	483	0.29	1,568,725	5.95
30,000-35,000.....	333	0.20	1,528,988	5.80
35,000-40,000.....	169	0.10	986,314	3.74
40,000-45,000.....	130	0.08	855,278	3.25
45,000-50,000.....	97	0.06	768,749	2.92
50,000 and over.....	390	0.23	9,032,358	34.29
Totals.....	166,972	100.00	25,780,222	97.86
Unclassified.....	—	—	564,750	2.14
Gross Total.....	166,972	100.0	26,344,972	100.00
Deductions.....	—	—	385,506	—
Net Total.....	166,972	100.0	25,959,466	—

¹ See: "Manual" by Vilfredo Pareto and discussion commencing page 344
"Income in the United States", by National Bureau of Economic Research, New York.

B. — DISTRIBUTION OF CANADIAN INCOME
IN RECENT YEARS.

TABLE 12 — EMPLOYEES FOURTEEN YEARS AND OVER,
CLASSIFIED ACCORDING TO SEX, SHOWING THE
NUMBER AND PER CENT DISTRIBUTION BY EARNINGS,
IN CANADA.

Census of 1941.
(Ten p.c. sample hand count of earnings)

Earnings Group	Total		Male		Female	
	Number	Per cent	Number	Per cent	Number	Per cent
Total.....	286,462	100.0	216,471	100.0	69,991	100.0
\$ 0-\$ 499....	102,885	35.9	64,187	29.5	38,698	55.0
500- 749....	44,867	15.7	29,180	13.4	15,687	22.4
750- 999....	36,317	12.7	27,624	12.7	8,693	12.5
1,000-1,249....	37,404	13.0	33,427	15.5	3,977	5.8
1,250-1,499....	18,999	6.6	17,690	8.2	1,309	1.9
1,500-1,999....	26,878	9.4	25,672	11.9	1,206	1.8
2,000-2,499....	10,202	3.6	9,906	4.6	296	0.4
2,500-2,999....	3,448	1.2	3,379	1.6	69	0.1
3,000 and over.	5,462	1.9	5,406	2.5	56	—

TABLE 13 — NUMBER OF INDIVIDUALS AND INCOME
TAX PAID DURING THE FISCAL YEAR 1939-1940 CLAS-
SIFIED ACCORDING TO INCOME GROUP.

Source: Dominion Income Tax Statistics, 1939-1940.

Income Group	Number	Per cent	Amount of tax	Per cent
Under \$2,000.....	124,132	42.35	1,284,790	2.50
\$2,000- 3,000.....	68,420	23.34	1,365,615	2.65
3,000- 4,000.....	39,700	13.54	1,583,628	3.08
4,000- 5,000.....	19,409	6.62	1,510,261	2.93
5,000- 6,000.....	11,563	3.95	1,603,960	3.12
6,000- 7,000.....	7,243	2.47	1,506,303	2.93
7,000- 8,000.....	4,924	1.68	1,430,861	2.78
8,000- 9,000.....	3,355	1.15	1,299,054	2.52
9,000-10,000.....	2,534	0.86	1,244,215	2.42
10,000-15,000.....	6,409	2.19	5,384,818	10.46
15,000-20,000.....	2,408	0.82	4,214,908	8.19
20,000-25,000.....	1,084	0.37	3,302,392	6.42
25,000-30,000.....	582	0.20	2,619,146	5.09
30,000-35,000.....	351	0.12	2,092,002	4.06
35,000-40,000.....	240	0.08	1,833,268	3.56
40,000-45,000.....	169	0.06	1,593,916	3.10
45,000-50,000.....	91	0.03	996,269	1.93
50,000 and over.....	483	0.17	16,606,971	32.26
Total.....	293,097	100.00	51,472,377	100.00
Unclassified.....	—	—	132	—
Gross Total.....	293,097	—	51,472,509	100.00
Deductions.....	—	—	918,659	—
Net Total.....	293,097	—	50,553,850	—

CHAPTER VI

Provincial Distribution

Owing to the variety of climatic conditions and the differences in physical environment and natural resources, together with certain historic factors governing the distribution and composition of the population, the various sections of Canada have developed along distinctly different economic lines.

In the use of the estimates of provincial distribution, it is helpful to have a broad perspective of the factors determining the relative size of the incomes of different areas of the country from year to year. One of these factors determines the long-term position of each province as a producer of income. The natural resources, the proximity of transportation facilities, the composition of the population, the advantages gained by priority of settlement and development, are prominent among the fundamental factors determining relative economic importance. In general, it may be observed that large populations and high population density are associated with high average income.

The provincial distribution of income payments from 1919 to 1938 is presented in Table 14. During the twenty years, nearly 63 per cent of the total income payments in the Dominion were received by the residents of Ontario and Quebec. Each of the four Western Provinces received from 6.9 per cent to 8.5 per cent, while the combined receipts of the Maritime Provinces amounted to 7.2 per cent of the whole.

Despite the severe economic depression of the thirties, income receipts in Quebec and Ontario averaged slightly greater in the decade from 1929 to 1938 than in the period from 1919 to 1928 inclusive. The decline in the Prairie Provinces, especially in Saskatchewan, was of considerable proportions.

Minor declines ranging from 1.6 per cent to 5.2 per cent were recorded in the Maritime Provinces and in British Columbia.

The percentage increase in payments from 1933 to 1937 is a rough measure of variability. According to this criterion, fluctuations were extreme in British Columbia, where the gain during the four years was 37.2 per cent. The increase in Quebec and Ontario was 33.3 per cent and 32.6 per cent, respectively. New Brunswick also recorded marked recovery, the increase having been 30.4 per cent, while the gain in Nova Scotia was nearly 30 per cent. The advances in the Prairie Provinces ranged from 20 per cent to 24 per cent. The least variation in this respect was shown by Prince Edward Island, where the advance was only about 14 per cent.

The annual average share of individuals in income payments by provinces, during the two decades, is indicated in Table 15 and Chart 11. For Canada as a whole, these per capita income payments averaged \$447 for the first decade from 1919 to 1928, and \$370 for the second decade from 1929 to 1938. This is a decline of \$77 or 17.2 per cent in the second decade as compared with the first. The figures show that Manitoba, Saskatchewan and Alberta enjoyed relatively high per capita income payments during the first decade and that, although they experienced a marked decline in the second, only one of them, Saskatchewan, fell much below the average of \$370 for the nine provinces. The extraordinary drought in certain areas in Saskatchewan would account for the greater decline in that Province. The Maritime Provinces and Quebec showed lesser fluctuations. Ontario and British Columbia were well above the average in both decades.

Chart II

PER CAPITA INCOME PAYMENTS

BY PROVINCES

After adjustment for the International Balance

on

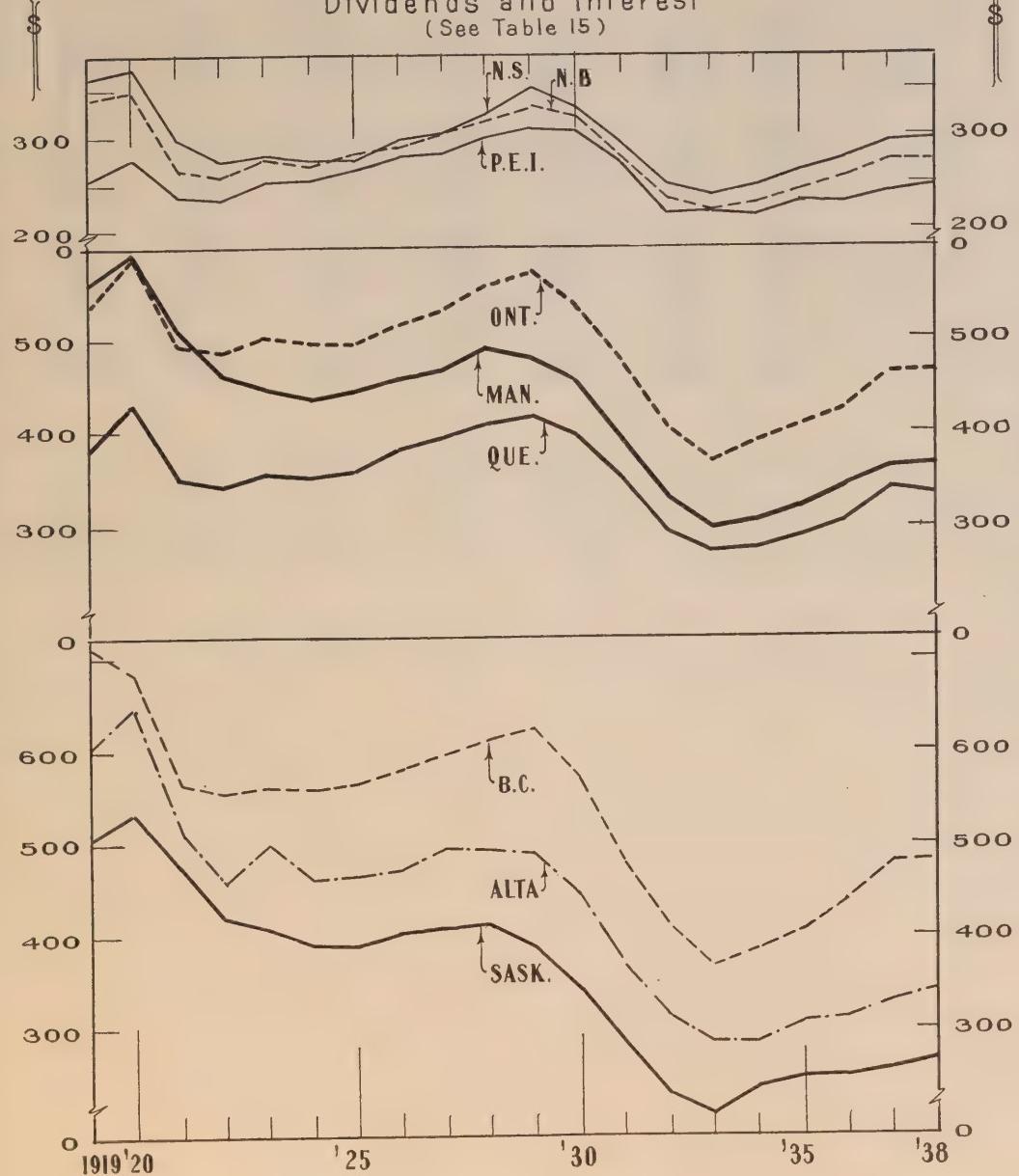
Dividends and Interest
(See Table 15)

TABLE 14 — AGGREGATE INCOME PAYMENTS IN THOUSAND DOLLARS, BY PROVINCES, 1919-1938.
(After adjustment for the international balance on dividends and interest).

Year	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	⁽¹⁾ British Columbia
1919.....	22,735	183,160	126,478	835,841	1,467,727	320,270	351,664	324,561	355,401
1920.....	24,861	192,708	132,682	984,853	1,667,731	349,167	389,437	364,604	354,018
1921.....	20,945	154,436	102,405	817,727	1,430,455	308,799	359,644	304,167	303,675
1922.....	20,844	141,715	100,435	806,598	1,434,808	281,206	323,160	271,188	306,664
1923.....	21,847	144,966	107,485	858,281	1,499,989	272,580	319,018	296,316	318,125
1924.....	21,639	140,930	104,945	865,817	1,501,068	269,764	310,228	275,219	326,120
1925.....	22,695	142,095	110,595	899,364	1,522,967	278,141	314,119	279,620	338,705
1926.....	24,190	152,603	112,857	977,925	1,609,762	290,362	329,973	287,113	357,787
1927.....	24,428	156,697	120,951	1,034,015	1,688,858	300,994	344,036	313,118	379,815
1928.....	26,334	168,287	127,000	1,097,050	1,819,667	322,045	355,312	325,742	401,212
1929.....	27,169	181,812	134,332	1,147,839	1,894,096	323,157	347,064	335,118	419,662
1930.....	26,910	171,563	130,399	1,117,246	1,799,489	310,945	313,593	315,227	393,207
1931.....	23,710	150,823	113,243	992,102	1,616,681	271,136	262,716	271,083	339,583
1932.....	19,467	128,532	96,518	841,304	1,391,354	228,662	215,438	234,088	295,129
1933.....	19,782	123,000	92,940	789,737	1,301,789	207,371	194,934	214,427	268,240
1934.....	19,350	129,647	97,301	815,077	1,403,671	213,277	219,571	216,798	285,622
1935.....	20,634	138,678	103,858	870,484	1,491,607	225,484	230,493	235,956	309,944
1936.....	21,188	148,087	111,154	931,717	1,563,778	241,021	231,085	240,242	334,556
1937.....	22,530	159,684	121,180	1,052,542	1,721,752	257,136	240,137	257,336	367,954
1938.....	23,154	163,119	121,445	1,053,231	1,733,360	261,276	248,077	268,295	372,728
Averages									
1919-1938...	22,721	153,627	113,410	939,438	1,578,030	276,640	294,985	281,061	341,407
1919-1938...	0.57%	3.83%	2.83%	23.48%	39.44%	6.92%	7.37%	7.03%	8.53%
1919-1928...	23,052	157,760	114,583	917,747	1,564,303	299,333	339,659	303,265	344,152
1929-1938...	22,389	149,495	112,237	961,128	1,591,758	253,947	250,311	258,857	338,663
P. C. Change 1937 1933	+13.9	+29.8	+30.4	+33.3	+32.6	+24.0	+23.2	+20.0	+37.2

⁽¹⁾ Includes the Yukon and the Northwest Territories.

TABLE 15—PER CAPITA INCOME PAYMENTS IN DOLLARS, CANADA AND THE PROVINCES, 1919-1938.
(After adjustment for the international balance on dividends and interest).

Year	Canada	Prince Edward Island	Nova Scotia	New Brunsw- ick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia (i)
1919.....	480	255	361	339	374	526	555	502	600	709
1920.....	521	279	373	348	428	583	588	534	645	681
1921.....	433	235	295	264	346	488	506	475	517	566
1922.....	413	234	271	258	335	481	457	420	458	555
1923.....	426	251	280	276	351	498	440	410	500	561
1924.....	417	252	273	268	347	491	432	392	461	559
1925.....	421	264	276	281	353	490	440	390	464	565
1926.....	438	278	296	285	376	509	454	402	472	579
1927.....	453	281	304	304	389	525	462	409	495	597
1928.....	471	299	327	317	404	555	485	412	495	613
1929.....	480	309	353	333	414	568	477	393	490	624
1930.....	448	306	334	321	395	531	451	347	445	571
1931.....	389	269	294	278	345	471	387	285	370	480
1932.....	328	219	248	234	289	400	323	231	316	411
1933.....	301	222	236	221	266	365	292	209	287	369
1934.....	314	217	247	229	270	387	300	236	287	386
1935.....	332	232	263	242	284	406	317	248	309	406
1936.....	347	230	276	256	301	424	339	248	311	438
1937.....	378	242	295	275	336	464	359	256	331	481
1938.....	379	246	298	273	332	465	363	264	343	481
Averages										
1919-1938.....	408	256	295	280	347	481	421	353	430	532
1919-1928.....	447	263	306	294	370	515	482	435	511	599
1929-1938.....	370	249	284	266	323	448	361	272	349	465

(i) Includes the Yukon and the Northwest Territories.

CHAPTER VII

Income of Health Professionals

Pending the receipt of more definite information regarding the income of health professionals, it is probably worth while to base an estimate upon the rate of salaries paid during the period of the seventh census. Following in part the method of the National Committee for Mental Hygiene, the salary of the employed physicians and dentists and other independent professionals, is taken as the starting point. It was assumed that 40 per cent of the gross earnings were disbursed as miscellaneous expenses. This assumption was made for physicians and surgeons, dentists, opticians and osteopaths and chiropractors.

In Table 17, the average gross earnings of physicians and surgeons were computed at \$5,237 per year. The employees in health activities including practical nurses and orderlies, earned \$17,696,400, while the gross income of independent health professionals and assistants was estimated at \$70.9 million, making a total of \$88.6 million.

A reference to "National Income and its Composition", pages 764 and 766, shows that in 1930-31 the average earnings of American physicians and surgeons in independent practice were nearly 50 per cent greater than those of independent physicians in Canada as estimated in Table 17, standing at \$4,642 as compared with \$3,142 in Canada. United States dentists working on their own account averaged nearly 37 per cent above the \$2,032 which was the indicated mean for Canadian practitioners. Trained nurses on private duty in the United States, however, only earned about 10 per cent more than the tentative average of \$1,009 recorded in Canada.

If American experience may be taken as a guide, rates for employees and professionals in practice were somewhat lower in 1938 than in 1930-31.

TABLE 16 — NUMBER OF EMPLOYEES AND EARNINGS PAID IN HEALTH ACTIVITIES, 1930-1931.

Source: Census 1931, Volume 5, Table 28, Page 126.

	Total Number	Employees Reporting Earnings		
		Number	Earnings	Weeks Worked
Dentists.....	226	207	\$ 396,500	10,170
Male.....	219	200	384,900	9,846
Female.....	7	7	11,600	324
Nurses, Graduate			\$	
Female.....	9,767	9,348	8,543,400	440,285
Nurses in Training				
Female.....	8,121	7,227	1,070,100	368,335
Opticians.....	379	372	623,300	18,376
Male.....	371	364	614,300	17,960
Female.....	8	8	9,000	416
Osteopaths and			\$	
Chiropractors.....	16	16	24,800	715
Male.....	12	12	21,200	559
Female.....	4	4	3,600	156
Physicians and Surgeons	1,426	1,087	\$ 3,364,600	56,078
Male.....	1,366	1,043	3,267,400	53,799
Female.....	60	44	97,200	2,279
Nurses, Practical			\$	
and Orderlies.....	5,674	5,273	2,762,100	235,230
Male.....	1,956	1,901	1,343,700	89,770
Female.....	3,718	3,372	1,418,400	145,460
Health Professionals,			\$	
n.e.s.....	895	842	911,600	38,424
Male.....	166	157	263,000	7,499
Female.....	729	685	648,600	30,925
TOTALS.....	26,504	24,372	17,696,400	1,167,613
Male.....	4,090	3,677	5,894,500	179,433
Female.....	22,414	20,695	11,801,900	988,180

TABLE 17 — ESTIMATED INCOME OF HEALTH PERSONNEL IN CANADA.

Source: Decennial Census, 1931.

(a) Numbers — Volume 7, Table 50.

(b) Rates — Volume 5, Table 28.

Personnel in Private Practice	Total Number	Average net Rate	Total net Earnings	Total Gross Earnings	Indicated Gross Rate
Physicians and Surgeons.....	8,593	\$ 3,142	27,003,214	45,005,355	5,237
Male.....	8,451	3,158	26,688,258	44,480,428	5,263
Female.....	142	2,218	314,956	524,927	3,697
Dentists.....	3,812	2,032	7,745,692	12,909,486	3,386
Male.....	3,788	2,033	7,701,004	12,835,006	3,388
Female.....	24	1,862	44,688	74,480	3,103
Opticians.....	488	1,771	864,228	1,440,380	2,952
Male.....	482	1,779	857,478	1,429,130	2,965
Female.....	6	1,125	6,750	11,250	1,875
Osteopaths and Chiropractors.....	526	1,846	970,880	1,618,133	3,076
Male.....	440	1,972	867,680	1,446,133	3,287
Female.....	86	1,200	103,200	172,000	2,000
Nurses.....	9,330	982	9,164,596	9,164,596	982
Graduate—Female	8,830	1,009	8,909,470	8,909,470	1,009
Practical—Female	494	507	250,458	250,458	507
Orderlies—Male	6	778	4,668	4,668	778
Health Professionals, n.e.s.....	476	1,590	756,808	756,808	1,590
Male.....	324	1,824	590,976	590,976	1,824
Female.....	152	1,091	165,832	165,832	1,091
TOTALS.....	23,225	2,002	46,505,418	70,894,758	3,052
Male.....	13,491	2,721	36,710,064	60,786,341	4,506
Female.....	9,734	1,006	9,795,354	10,108,417	1,038

(1) Gross—Net
.60

TABLE 18 — AMERICAN EXPERIENCE ON RATES OF REMUNERATION OF HEALTH PERSONNEL, 1929-1938.

Source: "National Income and its Composition"
by Dr. S. Kuznets. Pages 762 to 766.

PERSONNEL IN PRIVATE PRACTICE

Description and Year	Remuneration	Numbers	Rate
Physicians and Surgeons	\$000,000	000	\$
1929.....	665	119	5,588
1930.....	602	121	4,975
1931.....	530	123	4,309
1932.....	405	125	3,240
1933.....	379	127	2,984
1934.....	442	128	3,453
1935.....	475	130	3,654
1936.....	548	132	4,152
1937.....	590	135	4,370
1938.....	601	137	4,387
Dentists			
1929.....	245	58.8	4,167
1930.....	234	59.9	3,907
1931.....	202	60.6	3,333
1932.....	151	61.4	2,459
1933.....	135	62.2	2,170
1934.....	149	62.8	2,373
1935.....	156	63.4	2,461
1936.....	173	64.0	2,703
1937.....	186	64.9	2,866
1938.....	188	65.7	2,861
Trained Nurses, Private Duty			
1929.....	143	109	1,311
1930.....	141	118	1,194
1931.....	125	123	1,016
1932.....	97.3	128	760
1933.....	92.3	134	688
1934.....	110	139	791
1935.....	127	145	875
1936.....	148	151	979
1937.....	163	158	1,031
1938.....	169	164	1,030
Other Curative			
1929.....	130	47.1	276
1930.....	117	46.7	251
1931.....	102	47.2	216
1932.....	770	47.7	161
1933.....	69.4	47.4	146
1934.....	77.2	46.8	165
1935.....	81.4	47.1	173
1936.....	91.8	47.5	193
1937.....	97.7	47.7	205
1938.....	100	48.1	208

PART VI

**ESTIMATE OF THE COST OF THE
DRAFT HEALTH INSURANCE BILL**

CHAPTER I

Introduction

The traditional approach to any National Health Insurance Plan is through a study of the various economic groups that make up the general population. Under the British system, the employer, the employee and the state contribute equal shares. The Australian plan looks forward to the eventual assumption of the total cost of premiums by the employer and employee, but until the system reaches maturity, that is, until everyone under it has paid premiums from the age of sixteen, the state subsidizes the scheme.

Under the Bill now proposed for Canada all the population over sixteen years of age would be potential subscribers and the cost of the scheme would be met by premiums from subscribers and grants from both the Provincial and Dominion Governments. It is upon this basis that the following tentative estimate of the contributions to the Health Insurance plan now proposed has been constructed.

From previous studies made on the cost of medical care in Canada, it is assumed that in addition to the

Dominion grant a premium of twenty-six dollars from each person over sixteen years of age would finance the scheme of health insurance proposed under the Bill. In cases where the contributors are unable to pay the full premium through the lack of resources, the plan provides for assistance from the employer and the Provincial Governments.

In order to ascertain the amount of the premium that could be collected from the subscribers, the population of Canada as in 1938 has been divided into economic groups, as shown in Table I under "Classification", and classified under (a) employees, (b) employers, (c) assessed contributors, (d) Provincial Governments and (e) the Dominion Government.

Explanatory notes referring to each main heading are given to assist the reader in understanding the methods involved in calculating the total cost of the scheme to the various participants.

CHAPTER II

Health Insurance Costs

TABLE 1 — TENTATIVE ESTIMATE OF THE CONTRIBUTIONS TO THE HEALTH INSURANCE FUND AS OF 1938.

\$000

Item No.	Classification	Employees	Employers	Assessed Contributors	Provincial Gov'ts.	Dominion Gov't.	Total
1. Dominion Government Grant — 11,209,000 at \$3.60.....						40,352	40,352
2. Employees, Full time, 1,803,509 at \$26.....	35,392	11,499			7,930		46,891
3. Employees, Broken time, 891,491 at \$26.....	11,403	3,846					23,179
4. Unpaid Labour with Living Allowances, 339,488 at \$26.....			8,827				8,827
5. Working Proprietors, 1,063,871 at \$26.....				19,216	8,445		27,661
6. Other Income Recipients with no Occupation, 210,000 at \$26.....				3,793	1,667		5,460
7. Dependents of Employees, 1,273,952 at \$26.....	16,747				16,376		33,123
8. Dependents, Working Proprietors, 981,745 at \$26.....					12,619		25,523
9. Dependents, Broken Families, 88,522 at \$26.....				1,123	1,179		2,302
10. Residual Adult Population, 7,628,000 — (6,653,000 + 221,000) = 753,000 at \$26.....					19,578		19,578
11. Total Operational Cost.....	63,542	24,172		37,036	67,794	40,352	232,896
12. Administrative Cost.....					23,290		23,290
13. Total Cost.....					91,084		256,186 ⁽¹⁾
14. Deduction of Present Expenditure.....					15,000		
15. Residual Payment by Provincial Governments					76,084		

(1) The reduction from \$266.3 million given as total cost in Tables explaining Item 1, to \$256,186,000 is due to the elimination of payments for 221,000 inmates military pensioners and Indians and a corresponding reduction in Administrative Cost. For convenience the premium per adult was placed at \$26 while \$26.46 was required according to the assumptions of Note 1.

Tentative Estimate of the Cost of Health Insurance in Canada Mainly on the Basis of Conditions in 1938

DESCRIPTION OF METHOD

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1. Total operational cost is placed at \$21.60 per capita per year. Estimates of population in 1931 and 1938 are from the Canada Year Book, 1942, page 98. The total for 1943 is placed at about 260,000 above the final census result for 1941. Applying the appropriate rate to these estimates we obtain:—

Year	Population	Cost		
		Total	Operational	Administrative
1931	10,376,000	\$ 246,533,760	\$ 224,121,600	\$ 22,412,160
1938	11,209,000	266,325,840	242,114,400	24,211,440
1941	11,506,000	273,335,040	248,486,400	24,848,640
1943	11,765,000	279,536,000	254,124,000	25,412,000

The total cost is consequently \$23.76 per capita, of which the administrative expenditure is estimated at 10 p.c. of the operational cost or \$2.16 per capita.

The Dominion grant may be calculated as a fractional part of the operational cost, as follows:—

Year	One-Ninth	One-Eighth	One-Sixth	Two-Ninths
	of Operational Cost			
Per Capita Rate	\$ 2.40	\$ 2.70	\$ 3.60	\$ 4.80
1931	24,902,400	28,015,200	37,353,600	49,804,800
1938	26,901,600	30,264,430	40,352,400	53,803,200
1941	27,609,600	31,060,800	41,414,400	55,219,200
1943	28,236,000	31,765,500	42,354,000	56,472,000

For the purposes of this study, it is assumed that the Dominion Government will contribute one-sixth of the cost of operations.

In estimating the absolute and per capita cost and the share of the Dominion Government in 1941 and 1943, no account is taken of the increase in prices subsequent to 1938. The comparability with the pre-war period is therefore invalid as far as the advance in professional fees and prices is concerned.

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2. *Employees.*—The number of employees working at any time during 1938 was estimated at 2,695,000 and the broken time at 407,000 man-years. In the Census period of 1930-31, comparable figures were 2,579,000 working and 391,000 man-years of broken time. The 1931 Census indicated that broken-time workers lost an average of 23.85 weeks in the one-year period. Using the relative changes in total numbers and broken time as interpolating factors, it was estimated that the comparable figure for 1938 was an average of 23.74 weeks lost for each broken-time worker. Since 407,000 man-years were lost in 1938, and the average worker lost 23.74 weeks out of a possible 52, about 891,000 workers would lose *some* time during the year. Subtracting this figure from 2,695,000, gives about 1,804,000 employees working the entire fifty-two weeks.

(a) *Full-Time Employees.*—The number of employees was distributed over a range of income classes as adapted from Page 78, Vol. V, of the 1931 Census. Employees were assumed to pay a premium of 3 p.c. on salaries and wages up to a maximum premium of \$26 each, the residual required to make up \$26 (for those paying 3 p.c. only) being contributed by the employer.

3. (b) *Employees on Broken Time.*—The total number, as before, was distributed over a range of income classes. Employees were assumed to contribute 3 p.c. of salaries and wages. The difference between 3 p.c. and \$14.13¹ per head was paid by the employer and the remaining sum required to make up \$26 became the liability of the provinces. As in item 2, no employee pays more than \$26.

4. *Unpaid Labour with Living Allowances.*—The group, consisting mainly of subsidiary family labour on farms, receives no important cash remuneration. The employers would necessarily be responsible for the payment of the premiums amounting to \$8,827,000 computed as the product of 339,488 at \$26 each.

5. *The working proprietors*, estimated at 1,063,871 in 1938, were distributed according to the frequency distribution of employees given on page 78 of Volume V of the Census of 1931. About 684,000 of this status group were in the three lower brackets. Multiplying by \$26 the total amount of premiums for this section would be \$17,787,000. If 3 p.c. of the income of the 684,103 working proprietors in the lower brackets is paid

Item

by them on their own behalf, the residue to be assumed by the Provincial governments would be \$8,445,000.

Deducting the \$8,445,000 from the total premiums payable at \$27,661,000, we obtain \$19,216,000 to be contributed by the working proprietors on their own premium liabilities.

The income return to the working proprietors for work, management and ownership is estimated at less than the average salary-wage received by the employee. About seven-tenths of the class are engaged in agriculture, an industry in which the average remuneration is relatively small. Applying the method of the Bill to the situation in 1938, we find that about 681,000 farmers at the average farm labourer's wage of \$509 would have a return of \$346,482,000. The farm capital in that year was given as \$4,341,092,000. Appraised at 3 p.c., the amount accruing from ownership would be \$130,232,000. The average return of \$694 per year is far below the average employee remuneration of \$1,077. (See Table 2.)

6. *Income Recipients with no Occupation* are treated in a similar manner to the working proprietors. The number of 210,000 is conjectural as different classes of residuals were coded to the Census symbol. The officers of the Census point out that the total may be far from accurate, but it is thought that the error arising from any inaccuracy in this number will not fundamentally affect the distribution of the Health Insurance cost as given in the summary tables.

TABLE 2
ESTIMATE OF THE AMOUNT OF PREMIUMS PAID BY
WORKING PROPRIETORS

Remuneration Class	Un-weighted Average	Number of Working Proprietors	Income	Working Proprietors 3% in lower brackets. Maximum \$26.	Total Premium
\$ 1- 49	\$ 25	13,857	\$ 346,425	\$ 10,400	\$ 360,282
50- 449	250	351,383	87,845,750	2,635,400	9,135,958
450- 949	700	318,863	223,204,100	6,696,100	8,290,434
950-1449	1,200	208,740	250,488,000	5,427,240	5,427,240
1450-1949	1,700	93,962	159,735,400	2,443,012	2,443,012
1950-2949	2,450	51,686	126,630,700	1,343,836	1,343,836
2950-4949	3,950	19,591	77,384,450	509,366	509,366
4950-6949	5,950	3,658	21,765,100	95,108	95,108
6950-9949	8,450	1,214	10,258,300	31,564	31,564
9950-....	—	917	9,124,150	23,842	23,842
Total	—	1,063,871	966,782,375	19,216,000	27,661,000

¹ Calculated by reducing the amount of \$26 by the ratio $\frac{28.26}{52}$ where 28.26 represents the average number of weeks worked during the year.

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7. *Dependants of Employees.*—The total number of wage-earner families² obtained from the 1931 Census and raised to allow for population increase was broken down by a frequency curve to yield an approximate distribution of families classified as to number of dependants (over 16 years of age). A maximum of three dependants was assumed. Contributions of family heads on behalf of their dependants were estimated as follows:—

One Dependant.—The “assessed income maximum” is set at \$1,400; at this point the employee pays a total of \$52 for himself and dependant, *i.e.*, 3.7 p.c. of his income. (Note:—For the sake of clarity it is necessary to refer to the contributions of the employee on behalf of himself, but it should be remembered that his payment has already been accounted for—Items 2 and 3). The system of contributions on behalf of dependants may seem complicated, but it attains certain desired results, effecting a compromise between the principles of “ability to pay” and “payment according to potential benefits”. The method works as follows:

(a) *An Employee earning less than \$866* (at which point 3 p.c. of income = \$26) pays—

- (1) On own behalf—3 p.c. of income, the residual required to make up \$26 being paid by employer.
- (2) On behalf of dependant—.7 p.c., the residual required to make up \$26 being paid by province.

(b) *An Employee earning between \$866 and \$1,400, pays—*

- (1) On own behalf—\$26.
- (2) On behalf of dependant—.7 p.c. plus the amount by which 3 p.c. of income exceeds \$26. The residual is paid by the province.

(c) *Employee earning \$1,400 or over pays—*

- (1) On own behalf—\$26.
- (2) On behalf of dependant—\$26. The total contribution at this point is \$52, or 3.7 p.c. of income.

Two Dependants.—The method is similar in large measure to that outlined above except that the “assessed maximum” is set at \$1,800. At this point the head pays a total of \$78 for himself and dependants, or 4.3 p.c. of income. Family heads in lower brackets pay for the two dependants a basic rate totalling 1.3 p.c. plus the amount by which 3 p.c. of income exceeds

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\$26. As before, the employer assists the head when 3 p.c. of income is less than \$26 and the Provincial government makes up the balance of the \$52 required for the two dependants.

Three Dependants.—The “assessed maximum” is \$2,100. At this point the employee pays a total of \$104 or 4.95 p.c. of income for himself and three dependants. Family heads in lower income brackets pay a total on behalf of their dependants of 1.95 p.c. of income plus the amount by which 3 p.c. exceeds \$26.

8. *Dependants of Working Proprietors and other income recipients.*—The total number of working proprietor families and of families with income, the head not being gainfully occupied (adjusted to the 1938 basis) were, as in Item 7, placed on a frequency curve in order to approximate the number of families in this class with one, two and three dependants. Contributions on behalf of dependants were computed in a manner similar to that for employee families.

9. *Dependants of Broken Families.*—A system similar to the foregoing (Items 7 and 8) was used to distribute numbers of such families according to their dependants and to calculate contributions on behalf of dependants. Not knowing the distribution of the heads of families as between employees and assessed contributors, the contribution, other than that of the Provincial Governments, was assigned to the assessed contributors.

Summary:—

The general procedure determining the contribution on behalf of dependants for the three classes mentioned above follows:—

- (a) The raising of the number of families obtained from the 1931 census to a 1938 basis.
- (b) The classification of these families according to the number of dependants.
- (c) The assumption of certain assessed maxima for families with one, two and three dependants, above which \$26 per person is paid and below which a percentage of income is paid, the said percentage being determined by the total percentage contribution at the assessed maximum point, where the whole cost is borne by the family head.

* Decennial Census tables present data on biological families which have employees and working proprietors as heads. The occupational status of the heads of broken families is not given. For the latter class we have necessarily followed the same practice in distributing tentative costs under the Health Insurance Scheme.

TABLE 3 — TENTATIVE ESTIMATE OF CONTRIBUTIONS UNDER THE HEALTH INSURANCE PLAN, TO BE PAID ON OWN BEHALF AND ON BEHALF OF DEPENDANTS BY WAGE-EARNERS WITH TYPICAL ANNUAL INCOMES.

Type of Family	Salary—\$840	Salary—\$1,000
Single Wage-earner	Wage-earner at 3 p.c. \$25.20 Employer ..... .80 Total 26.00	Wage-earner \$26.00 Employer Nil Total 26.00
Wage-earner with one Dependant	(a) <i>On own behalf:</i> Wage-earner at 3 p.c. 25.20 Employer ..... .80 Total 26.00	(a) <i>On own behalf:</i> Wage-earner 26.00
	(b) <i>On behalf of Dependant:</i> Wage-earner at 0.7 p.c. 5.88 Provincial Government 20.12 Total 26.00	(b) <i>On behalf of Dependant:</i> Wage-earner at 0.7 p.c. 7.00 Wage-earner at 3 p.c. less \$26 4.00 Provincial Government 15.00 Total 26.00
Wage-earner with two Dependents	(a) <i>On own behalf:</i> Wage-earner at 3 p.c. 25.20 Employer ..... .80 Total 26.00	(a) <i>On own behalf:</i> Wage-earner 26.00
	(b) <i>On behalf of Dependents:</i> Wage-earner at 1.3 p.c. 10.92 Provincial Government 41.08 Total 52.00	(b) <i>On behalf of Dependents:</i> Wage-earner at 1.3 p.c. 13.00 Wage-earner at 3 p.c. less \$26 4.00 Provincial Government 35.00 Total 52.00
Wage-earner with three Dependents	(a) <i>On own behalf:</i> Wage-earner at 3 p.c. 25.20 Employer ..... .80 Total 26.00	(a) <i>On own behalf:</i> Wage-earner 26.00
	(b) <i>On behalf of Dependents:</i> Wage-earner at 1.95 p.c. 16.38 Provincial Government 61.62 Total 78.00	(b) <i>On behalf of Dependents:</i> Wage-earner at 1.95 p.c. 19.50 Wage-earner at 3 p.c. less \$26 4.00 Provincial Government 54.50 Total 78.00

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- (d) The assessment of family heads on behalf of their dependants at a rate equal to the difference between the total percentage rate (for self and dependants) at the assessed maximum and 3 p.c., e.g., 3.7 p.c. minus 3 p.c. equals 0.7 p.c. in the case of one dependant. This basic contribution on behalf of dependants is augmented by the amount by which 3 p.c. of income exceeds \$26. At, and above, the assessed maximum, the whole premium of \$26 per person is paid.
- (e) The assumption that the residual payment required to make up \$26 for each dependant is paid by the Provincial Governments.
10. By an analysis of the age distribution of intercensal population, it was determined that the number, 17 years of age and over, in 1938, was 7,627,000. The number of such adults considered in Items 2 to 9 was 6,653,000. Furthermore, War Pensioners (79,876) and adult Indians (67,500), who are the responsibility of the Dominion Government, will doubtless be excluded from

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the Plan. The adult inmates of the mental hospitals, charitable institutions, children's aid societies, reformatories and penitentiaries numbering about 74,000 in 1938 will be cared for under the Public Health section of the Bill or through governmental grants and appropriations.

In obtaining the residual population coming under the Bill, it seems appropriate to deduct the three classes described above amounting to 221,000. The residual population of 753,000 at \$26 each will account for \$19,578,000 to be discharged by the Provincial Governments.

11. *The Total Operational Cost* and its distribution are obtained by adding Items 1 to 10.
12. *The Administrative Cost* to be borne by the Provincial Governments is computed at 10 p.c. of the total operational cost of \$232,896,000.
13. *The Total Cost* is obtained by the summation of Items 11 and 12.
14. *Deductions.*—A special compilation was made of provincial and municipal expenditures on hospitalization and medical service for those unable to pay their medical and hospital bills;

these expenditures would naturally be absorbed by the operations of the Health Insurance Bill. The total was about \$15,000,000, which, deducted from the \$91,084,000 would give the remaining \$76,084,000 as the additional liability of the Provincial Governments.

There are two main items of expenditures of provincial and municipal governments which may reasonably be expected to disappear, either immediately or within a comparatively short number of years after the implementation of a health insurance scheme, viz.:

- (1) Provincial and municipal payments to hospitals, including per diem grants for both paying and non-paying patients, as well as other miscellaneous grants, indigent patients' daily rate charges and deficits, after providing for debenture debt and other capital charges; these at present approximate \$10,000,000 annually.
- (2) Provincial and municipal payments for medical services to indigent and/or unemployed persons. Actual figures on the cost of this service for each province do not appear to be available, but based on the experience of Ontario under the "Ontario Medical Relief Scheme", which cost the province and the municipalities approximately \$1,000,000 (Appendix 6 of Royal Commission on Dominion-Provincial Relations Reports—"Public Assistance and Social Insurance", by A. E. Grauer) for the fiscal year 1936-37, it is estimated that the total expenditures by provincial and municipal governments for this service would not exceed \$5,000,000.

While there would appear to be other expenditures of both provincial and municipal governments which might disappear following health insurance being established, an analysis of the Provincial Public Accounts and some 70 odd municipal reports, representative of each of the nine provinces, indicates that it is impossible to determine the exact nature of the services now being rendered in relation to the provisions of the proposed Health Insurance Bill. It would seem reasonable to assume, however, that expenditures by provinces today, under the general captions of "Health" and/or "Welfare", would consist mainly of those relating to services which will, if anything, be increased under the terms of the proposed Bill, such as, mental hygiene, tuberculosis prevention and venereal disease prevention, or are for other services which are considered preventive measures.

There may be some decrease in administrative costs but it is impossible to obtain even an approximation of what the saving might be, by reason of the fact that a number of costs are not now segregated as between therapeutic and preventive services.

In so far as the municipalities are concerned, the main savings will be in medical services to unemployed or indigent persons, or for hospitalization, which are included in the above amounts. There may no doubt be certain reducible hidden costs in municipal expenditures which cannot be obtained from existing reports. It is felt, however, that these expenditures would have a negligible effect in relation to the total burden of costs which would appear to be placed on provincial or municipal governments by the proposed Health Insurance Bill.

CHAPTER III

Summary of Grants by Dominion Government to the Provinces for Extension of Public Health Services as Proposed in First Schedule to the Dominion Act

(A) PUBLIC HEALTH:

At 25c. per capita.....	\$2,872,428.
P.E.I.....	\$ 23,762.
N.S.....	114,491.
N.B.....	114,350.
Que.....	832,970.
Ont.....	946,914.
Man.....	182,436.
Sask.....	223,998.
Alta.....	199,042.
B.C.....	204,465.

(B) TUBERCULOSIS (Treatment):

At 1-9th Provincial Expenditures.....	\$1,035,155.
P.E.I.....	\$ 6,020.
N.S.....	50,090.
N.B.....	39,642.
Que.....	303,571.
Ont.....	357,723.
Man.....	64,055.
Sask.....	76,657.
Alta.....	60,155.
B.C.....	77,242.

(C) MENTAL DISEASES (Treatment) GRANT:

At 1-9th Provincial Expenditures.....	\$2,171,485.
P.E.I.....	\$ 15,228.
N.S.....	99,108.
N.B.....	41,017.
Que.....	748,591.
Ont.....	694,962.
Man.....	115,854.
Sask.....	182,640.
Alta.....	109,634.
B.C.....	164,451.

(D) VENEREAL DISEASE:

At .017c. per capita.....	\$195,325.
P.E.I.....	\$ 1,616.
N.S.....	9,824.
N.B.....	7,776.
Que.....	56,642.
Ont.....	64,390.
Man.....	12,406.
Sask.....	15,232.
Alta.....	13,535.
B.C.....	13,904.

(E) PROFESSIONAL TRAINING GRANT :

At need of Provinces.....	\$100,000.
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(F) INVESTIGATIONAL (Public Health) GRANT:

At need of Provinces.....	\$50,000.
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(G) YOUTH (Physical Fitness) GRANT:

At .022c. per capita.....	\$252,774.
P.E.I.....	\$ 2,091.
N.S.....	12,715.
N.B.....	10,063.
Que.....	73,302.
Ont.....	83,328.
Man.....	16,054.
Sask.....	19,712.
Alta.....	17,516.
B.C.....	17,993.

GRAND TOTAL PUBLIC HEALTH

GRANTS TO PROVINCES.... \$6,677,167.

SUMMARY OF DISTRIBUTION OF TOTAL PROVINCIAL GRANTS FOR PUBLIC HEALTH

P.E.I.....	\$ 48,717.
N.S.....	316,228.
N.B.....	212,848.
Que.....	2,015,076.
Ont.....	2,147,317.
Man.....	390,805.
Sask.....	518,239.
Alta.....	399,882.
B.C.....	478,055.

TOTAL.... \$6,527,167.⁽¹⁾

(1) Does not include distribution of Grants E and F as need cannot be estimated at this time.

PART VII

**SUBMISSIONS OF VARIOUS ORGANIZATIONS
TO THE ADVISORY COMMITTEE ON
HEALTH INSURANCE**

CHAPTER I

Introduction

Even before Order in Council P.C. 836 established the Advisory Committee on Health Insurance, the Director of Public Health Services, in carrying on his health insurance studies, had taken steps to secure the cooperation of various organizations concerned with the health and welfare of Canadians and for this purpose had requested such bodies to form health insurance committees which could meet with the Director and discuss the problems to be faced in drawing up a suitable plan for health insurance in Canada. With the creation of the Advisory Committee and the appointment of the Director as permanent chairman this activity was further stimulated and every organization which it was felt could contribute to the efficient and practical formulation of such a scheme was asked to present the views of its membership. The Advisory Committee was of the opinion that no plan, however well intentioned, could prove successful unless it took into consideration the enlightened opinions of all classes of people which such a plan would affect and serve.

As a result of the Advisory Committee's request for cooperation and exchange of viewpoints, sixteen national organizations formed health insurance committees. Fourteen of these bodies submitted written reports, recommendations or resolutions on the subject. This material, submitted in written form, is presented together as Part VII of the Report, and it will serve to give the reader an idea of the general principles favoured by each group. It must be remembered, however, that the following written statements form but a minute portion of the actual work accomplished by these health insurance committees since views were exchanged, principles outlined, objections raised and overcome largely through personal interviews and frank and friendly correspondence between the various committees and the Advisory Committee on Health Insurance. Most of the committees met with the Advisory Committee or the permanent chairman on several occasions and as each draft plan was formulated consultations were held on the various clauses affecting this or that group. The Advisory Committee believes that the result of this cooperation has been a draft plan which is sound from the viewpoint of the expert statistician and the expert actuary and which, at the same time, follows the middle road of progress leading to an effective and harmonious application. No plan which proves objectionable to a large portion of the population would have a chance of success. It is believed

that the policy of consultation with organizations representing in one way or another most of the people of the country *before* the final draft bill was drawn up has served to obviate any such large-scale objections.

It will be noted that two organizations based their reports on replies by their membership to a health insurance questionnaire. This questionnaire was made available to any group wishing to quickly assess the opinions of its membership and several availed themselves of its use. In order that the reports of these bodies may be intelligible, the text of the questionnaire is presented below. The questionnaire contained, in addition to a series of 25 questions, a bibliography of health insurance publications for study purposes. Only the question part of the questionnaire is given here.

Questions Re Health Insurance to Serve as a Basis of Study

1. Should preventive medicine be an integral part of health insurance?
2. Do you believe in the principle of subventions for public health measures and, in particular, for the following purposes:
 - (a) To aid in providing free treatment for tuberculosis for everyone in Canada—there are 6,000 deaths each year from tuberculosis in Canada.
 - (b) To aid in the treatment of mental illness and mental deficiency—there are 40,000 people in asylums in Canada today; the provinces just cannot find sufficient money to do justice in the way of treatment and prevention; there are 8,000 mental defectives and accommodation for only 5,000.
 - (c) To aid in the treatment of the venereal diseases and in their prevention.
 - (d) To aid in providing a cancer prevention programme.
 - (e) To aid in providing new health units and helping to support existing health units.
 - (f) To aid in meeting special emergencies in the public health field such as epidemics.

- (g) To aid young doctors, nurses, engineers, sanitary nurses and sanitary inspectors to take a course in Public Health—there are not nearly enough public health workers in Canada.
- (h) To aid in carrying out special investigations in the public health field.
- (i) To aid in the physical development of the young and the prevention of physical defects.
- (j) To aid in the reduction of maternal deaths and reduction of infant mortality.

3. Are there any other public health purposes for which subventions might be made?
4. Do you believe in compulsory health insurance?
5. Should health insurance be adopted in Canada? If so, should it include:
 - (a) Everybody—irrespective of income?
 - (b) Persons with an income not in excess of \$3000?
 - (c) Persons with an income not in excess of \$2400?
 - (d) Persons with an income not in excess of \$1800?
 - (e) Persons with an income not in excess of \$1200?
6. Do you believe that persons above an established maximum income should be provided with health insurance on a voluntary basis if they pay the entire cost including the cost of administration?
7. Should health insurance be confined to wage-earners only as in England?
8. Should it include persons with incomes?
9. Should it include the dependents of wage-earners and persons with incomes?
10. Should all indigents be provided with medical service free of charge?
11. Should people in rural areas be provided with health insurance irrespective of income?
12. Should health insurance include full medical benefits including the services of the general practitioner, consultant, specialist, visiting bedside nurse, hospital, drugs and appliances, laboratory services including X-ray, etc., dentistry, eye-glasses and all necessary

medical services for the treatment of disease and the prevention of deformity, etc., etc.,—a full and complete unlimited service on the basis that if you are sick you need everything, whether you are rich or whether you are poor. (The statement is made that the rich and the poor can obtain full and complete medical benefits—the rich because they are rich and the poor because they can obtain charity. The statement that the poor can obtain medical services has to be taken with a grain of salt. The poor can obtain emergency treatment and in some unorganized districts not even that.)

13. Should the individual have free choice of doctor?
 14. Should the doctor be paid:
 - (a) On a fee basis, i.e., a fee for each visit.
 - (b) On a capitation basis, i.e., an established amount per capita as in England where a doctor receives 10s. per insured person and is allowed to have 2500 insured persons on his panel and more only if he has an assistant?
 - (c) On a salary basis? (This is essential in rural areas where a doctor will not take up residence because of lack of patients.)
 - (d) On a case basis, i.e., \$10.00 per case irrespective of the amount of service he has rendered?
 15. Do you approve of periodic medical examinations?
 16. Who do you think should contribute to health insurance?
 - (a) Employer.
 - (b) Employee.
 - (c) Dominion Government.
 - (d) Provincial Government.
- Do you think that all of them should contribute?
- Should the Provincial Government be responsible for administration as its contribution? Some persons believe that health insurance should be paid by a special tax provided for that purpose—it is suggested that the National Defence Tax might be maintained after the War in whole or in part and earmarked for health insurance. What do you think about it?

17. Should health insurance be administered through Health Departments inasmuch as preventive medicine plays so important a part in the health of the people of the country?
18. Do you prefer that the health officer should have nothing to do with health insurance and that administration should be by a Commission?
19. Do you think the medical profession should supervise all that pertains to the provision of medical benefits?
20. Do you think the dentists should supervise all that pertains to dental benefits?
21. Do you think the nurses should supervise all nursing benefits?
22. Do you think that the experts in the hospital field should supervise all that pertains to the hospital?
23. Do you believe that there should be a Provincial Council on Health Insurance comprised of all those who provide benefits such as the doctors, dentists, nurses; industry; women's organizations; labour, etc.?
24. Do you think there should be a National Council on Health Insurance composed of the members of the Provincial Councils on Health Insurance?
25. Do you think that administration should come under the Dominion and Provincial Ministers of Health or under a Dominion and Provincial Commission?

CHAPTER II

Canadian Dental Association

(May 18, 1942)

The Committee on National Health Insurance appointed by the Canadian Dental Association, representing the dental profession of Canada, makes the following presentation:

Presentation

The Canadian Dental Association at the request of the Dominion Department of Pensions and National Health desires to present the following outline plan for the co-operation of the Dental Profession in a health insurance arrangement.

While we do not desire to be understood as advocating the introduction of a Health Insurance Plan without much further study than has yet been given to the problem, we do wish to record our conviction that it would be undesirable to introduce any public health or health insurance plan without the inclusion of the essentially preventive dental service proposed herein.

We do not think that any plan will do away with dental disease in its entirety. We firmly believe however that the arrangement herein suggested will reduce the amount of such disease as far as is humanly possible.

During the childhood period is the most feasible and economical time in the life of the individual when control of dental diseases can be put into effect. The ravages of dental caries among the children of the nation is a well known condition among all public health officials, often spoken of as a national disgrace. It is pointed out that surveys where no school dental services have been in effect now show a condition of 95 to 98 per cent of the children possessing carious teeth in their mouths. In those municipalities where such service has been instituted for some years the incidence of dental caries is reduced a considerable amount, varying from 40 to 50 per cent in many instances. A factor which hitherto has mitigated against the reduction of dental disease has been the lack of financial resources in many cases. The provision of this financial support would produce a better situation, the result of which should be the establishment of a future Canadian population possessing abundantly more dentally fit oral conditions. The Dental Profession does not wish to go on record, due to lack of personnel, as able to care for all the insured herein suggested but does undertake to carry out the proposed plan to the best of its ability.

The profession, taking into account the available personnel and the wise expenditure of monies, are long since convinced that the only method of properly attacking the problem of dental disease is through the child. The retaining of a child's mouth in a condition of health is an objective far more attainable than making any attempt to remedy the condition of the dental cripples among the whole population.

Basing this presentation on the above statement, we present the following plan:

Insured Persons

The institution of a compulsory dental health insurance plan for all children up to the attainment of age sixteen.

Administration

1. The Lieutenant Governor-in-Council in co-operation with the Provincial Dental Boards (as defined in Principle No. 3 attached to this presentation) shall establish a Central Dental Committee and Regional Dental Committees. These Committees shall be responsible to the Director of Health Insurance for the administration of all dental services and all that relates to the practice of dentistry under the Health Insurance Act.

2. There shall be established a Provincial council on Health Insurance representing the Medical Profession, the Dental Profession, the Nursing Profession, Pharmaceutical Profession and Hospital Council and lay persons comprising industry, labour, and women's rural and urban organizations, providing that the majority of the members shall be licensed medical and dental practitioners in good standing.

3. There shall be established a Dominion Council on Health Insurance on which there shall be representatives of the Medical, Dental, Nursing, Pharmaceutical professions, the Hospital Council, and lay persons, representing industry, labour and women's rural and urban organizations, providing that the majority of the members shall be licensed medical and dental practitioners in good standing.

4. There shall be a Commission set up for the purpose of administering the Health Insurance Act.

5. In the event that Inspectors are found necessary, under the operation of the Health Insurance Act, as it pertains to Dentistry, such Inspectors shall be members of the Dental profession in good standing.

Benefits Available to Each Insured Person

1. A dental examination shall be given once every six months.
2. Prophylactic treatment shall be given once every six months, when necessary.
3. Plastic filling materials shall be used in restorative work.
4. Provision shall be made for the use of special materials and appliances for the treatment of accident cases.
5. Extractions and necessary dental surgery to be performed when necessary.
6. Anaesthetics shall be used where necessary.
7. Arrangements shall be made available whereby the patient may be referred for special services.
8. Radiograms to be used where considered necessary.
9. Provision shall be made for the use of such other materials as may be required in carrying out the usual procedures in the practice of dentistry for children.

Basis of Payment

For all children up to the attainment of the age of 16 years who come under the provisions of the Health Insurance Act, there shall be provided payment in full from the Insurance Fund to the dentist, based upon a schedule of fees as recommended by the Provincial Dental Board.

Explanation

The plan shall be advanced from the attainment of the age of 16 years upwards to 17 years, etc., as is deemed advisable from time to time according to the availability of personnel, financial support and general considerations. It will be realized that the added ages will be in the main composed of those who have been under the provisions for dental services. By the gradual increase of the age at no time will the plan be faced with the problem of the accumulated dental needs.

The Dominion of Canada would be in the position of being the first country to institute a definite and thorough plan of control in the field of public health as far as dentistry is concerned. In the event of a physical examination of manpower at some future time after the plan had been in operation, the result would be far different from that experienced at the beginning of the present war, when it was found that approximately 23 per cent of the available

manpower were discovered to be unfit for enlistment due to dental defects.

This plan is supported by the Canadian Dental Association for the reason that it is believed to be the only one economically sound and within the power of the Dental Profession to supply the necessary service with the available personnel at the present time. Further, the Dental Profession in Canada has no desire to enter into an arrangement in which the requirements for dental services are such that the profession has no means of supplying, even if the financial outlay required were underwritten. It is the considered opinion of this body that any attempt to render impossible services would result in not only the failure of the entire arrangement, but would bring great discredit upon the profession of Dentistry.

To meet the demands of the future expansion of the Health Insurance Plan, as it affects dentistry, the following proposals are submitted:

1. For dental research, in an effort to reduce the incidence of dental disease, an annual grant to be made.
2. For dental public health education of the public in general and the Dental profession an adequate annual grant to be made. The profession is convinced that education on dental public health is essential for the success of any such plan, as has been proven by past experience, and fully believe that such effort will materially reduce the cost of treatment.
3. For dental education in view of the fact that the personnel will need to be drastically increased in order to cope with the future increase in numbers of insured individuals, a sufficient amount to aid the Dental Schools of Canada.
4. That at the time of increasing the age limit under the Plan, adjustment will be made in the Health Insurance Act insofar as it affects dentistry both in the benefits to be provided and the basis of payment. These and any other future adjustments to be made with the co-operation of the representatives of the Dental Profession in Canada.

This outline as herein presented was adopted both by the Board of Delegates of the Canadian Dental Association and later at an open meeting of the Association held at the City of Toronto, May 18th, 1942.

**Principles for Dental Health Services
Adopted by
The Canadian Dental Association
May 18th, 1942**

1. That the plan be national in character.
2. That each Provincial Government be free to choose the adoption of the plan, the method of application best suited to meet the dental needs of its people, and the administration of the monies.
3. That the administration of the plan be through the co-operation of the Provincial Government and the Dental Board as provided under the Provincial statute regulating the practice of dentistry, of the various provinces as constituted at the present time.
4. That the practice of dentistry be carried on in the private office of the dentist except under circumstances not favourable to private practice.
5. That the regulating of the plan and the proper allotment of funds to be expended for dental health service be proportioned and adjusted by agreement between the Provincial Government and the Provincial Dental Board as defined in Clause (3), a standing committee to be set up for that purpose, this committee to consist of five persons, three appointed by the Dental Board and two by the Provincial Government.

6. That the following features be observed:
 - (a) Every qualified dentist in good standing to be eligible to practice under the plan.
 - (b) The patient to have freedom of choice of dentist and the dentist to retain the right to refuse attendance upon a patient subject to geographic, ethical or professional considerations.
 - (c) The basis of dental service to be, to make available the services of the dentist in general practice—the referring of patients for any special services to be made through said dentist.
7. That preventive dentistry rather than restorative dentistry shall hold a dominant position.
8. That there shall be no interference with the development and progression of the recognized dental professional standards.
9. That adequate provision shall be included for the encouragement and support of research in dentistry.
10. That any plan adopted shall provide for the indigent on an equal basis with those who are in a position to make contributions.
11. That the determination of the need for dental services shall be the prerogative of the dental profession.

CHAPTER III

Canadian Federation of Agriculture

(June 1942)

1. The Dominion Government should enact legislation for a National Health Insurance Plan for Canada.
 - (a) The large majority of the people are unable to pay for adequate medical care with its rapidly increasing scope and costs; while at the same time, those who give the services are not receiving a just remuneration. This state of affairs is having a serious effect on the welfare of our Dominion.
 - (b) Health is a national problem which is becoming more and more evident under the stress of war conditions. The responsibility of the Federal Government in calling on man and woman power from all classes entails Federal responsibility for the people's health.
 - (c) A National Health Plan would encourage a strong national sentiment. Confederation was intended to foster a national economy. There is now urgent need to revive this interest.
 - (d) Regional planning must now be done with vision; and it is imperative that the Federal Government give leadership in this work. The whole country should be mapped out to show the proper distribution of hospitals, equipment and personnel needed to serve the population as a whole. Only in this way could adequate distribution of facilities for a National Plan be accomplished.
2. The Plan should be administered under the direction of an independent Commission at Ottawa.

This Commission should be composed of representatives of those giving and those receiving the services, the majority of representation to be lay people. Thus, finance, industry, labour, agriculture, welfare and others will assume their proper function.
3. The legislation should provide that the Central Commission shall function in each Province through an independent commission ap-

pointed by Provincial legislation, representation to prevail similar to that of the Central Commission.

This set-up would obviate any conflict of authority between the Dominion and the Provinces.

4. The cost of the Plan shall be defrayed from the Federal Consolidated Revenue Fund.
 - (a) This is the most direct and economical system of providing the money. It would entail no extra work or cost of administration—the one yearly collection would suffice. This would be the people's contribution, collected through the customary channels.
 - (b) The Report of the Royal Commission on Dominion-Provincial Relations accentuates the need for a central authority to obviate dangers of fluctuation of provincial income during depression periods.
 - (c) This system of financing will mean equity so far as the individual citizen is concerned, in whatever Province he happens to live: which could not be the case if there were nine methods of raising funds, with varying burdens of taxation to the individual citizen.
5. The Plan should include all citizens.
 - (a) This is imperative because to adopt any other policy is to deny democracy and to destroy national unity. The Gallup Poll of the Canadian Institute of Public Opinion showed that 75% of the people—men and women, rich and poor—were in favour of a National Health Plan.
 - (b) Complete coverage is necessary to achieve financial soundness and to spread the cost equitably. Any "ceiling" imposed on who shall be recipients of the benefits of the Plan would cause endless confusion when there was a fluctuation of individual income.
 - (c) Canada has an increase in both the diseases of later life and the proportion of older people. Therefore, if we are to

plan for improvement in this situation a generation hence, we must encourage service to *all* the people; and there must be no penalizing of citizens with growing families. Also, it is obvious that unless all the population is in the Plan, preventive health measures cannot operate effectively to serve and protect the whole community.

6. The Plan shall include all services necessary for the promotion of positive health, and the prevention and curing of diseases.
7. The promotion of positive health and the prevention of diseases shall be the primary purpose of the Plan.
 - (a) This two-fold purpose must be integrated with the practice of medicine, and not considered as at present—merely a subsidiary under Public Health. Although the need for curative measures is fully recognized, we have not begun to realize the possibilities for improvement when all the community is organized in a health programme. Our planning must be with this end in view.
 - (b) This entails a better method of statistical recording than exists at present, the object being that the health progress of any part of the country can be detected at a glance. This would be complementary to the present movement for better vital statistics—both mortality and morbidity.
 - (c) The family must be taken as one complete unit, so far as their healthy environment, proper nutrition and health guidance is concerned—and not, as at present, where the father may consult one doctor, the mother another, and the health of the children and the welfare of the family as a whole be left to chance.
 - (d) We visualize the general practitioner as the very foundation of the success of the Plan. On his shoulders rests the promotion of positive health and the drastic curtailment of the diseases and

abuses under which the people at present labour. The general practitioner must be strategically placed and well remunerated; and all services necessary for the success of his important work must be easily available. It is because the general practitioner in the past has been frustrated by the economic set-up that the people have suffered needlessly, and that there has not been the advance in national health, paralleling that of science. The growing population of our mental institutions and the sick in our hospitals, (the majority of whom should not be there) is an indictment of our present situation. Therefore, the Plan must be so organized that the general practitioners can “go all out” on a co-ordinated, militant campaign for Health. This will mean an entire change in the attitude of our medical schools, the education of all health personnel, and the proper integration of research into the Plan. We believe that this will be to the advantage of both those giving and those receiving the services.

8. We believe that community effort must have a place in the Plan. Since municipal health services in many Western municipalities have proven an ideal system for the practice of preventive medicine—in raising the standard of community health, radically lowering sickness and death rates, and decreasing the need for hospitalization—every opportunity should be given within the national Plan for the preservation and enlargement of this method of providing services locally. Maximum efficiency and practicability should be sought, through local democratic participation of the people served. The dynamic of the rural community must be utilized in a programme for better health.

We believe in these broad principles for national health planning; and we realize that details cannot be worked out until all committees meet and pool their views. Therefore, we anticipate this opportunity being given to all representatives of those who would be giving and receiving services under the Plan.

CHAPTER IV

Canadian Hospital Council

(September 1942.)

1. Those hospitals shall be eligible for payment from the Fund which are approved as "public" hospitals by their respective provinces. Other hospitals shall be eligible with the consent of the Board only in case of emergency necessitating their use or in areas where delay incidental to transportation to an approved public hospital would be detrimental to the patient.

2. Hospitals for convalescent, incurable or chronic patients may be eligible for inclusion if recognized as "public" hospitals by their respective provincial governments and upon approval by the (?) Commission.

All such hospitals shall have duly constituted medical staffs who shall report periodically, as required by the (?) Commission, upon the state and progress of the patients under care.

3. The Committee on Hospitalization shall be composed as follows:

Three representatives of the provincial hospital association (if provincial; if on a national basis—"of the Canadian Hospital Council".)

Two representatives appointed by the Commission.

Such appointments shall be for a two year basis.

Regional sub-committees shall be appointed on a similar basis.

4. Subject to any restriction imposed by the Hospital Act(s) and the Hospital Regulations of the province concerned, the control and jurisdiction over the work done in the hospital and the general administration responsibility shall remain in the governing body of the hospital.

5. The usual rules and regulations of the hospital, provided they are in conformity with the requirements of the provincial government, shall be applicable to insurance fund patients as well as to other patients.

6. Hospitals, unless equipped with special facilities for such patients, shall not be required to admit patients apparently suffering from communicable diseases, mental disorders or likely to prove a disturbance or menace to other patients. General hospitals shall not be required to admit or retain patients not in need of hospital facilities for the care of acute diseases. (Designed to minimize hospitalization in "acute" hospitals of chronics, convalescents, senile patients and neurotics.)

7. Immediately upon the discovery of a patient suffering from communicable disease in a hospital, the administrator shall notify the local representative of the Commission, as well as the local Department of Health and, if not equipped for the care of such patient, may insist upon his removal without delay.

8. A hospital may insist upon the production of evidence that he is insured and in good standing by any person seeking admission as a patient.

(Is it desirable to add: assurance of such good standing by the local representative of the Commission may be taken as sufficient evidence?)
(To protect hospitals, doctors, nurses and others giving service, the cards issued to subscribers and to indigents should be so arranged that it can be noted whether the individual is in good standing at that particular time.)

9. Except in case of dire emergency, no hospital shall be required to admit a patient except upon the order of a qualified medical practitioner.

10. When a hospital is affiliated with a faculty of medicine in a university, patients admitted to semi-public or public wards may be utilized for teaching if so desired by the clinician.

11. Active hospital care shall be without time limit, except that after 21 days from the time of admission a full report of the patient's condition shall be forwarded to the (?) District Hospital Committee and this shall be repeated every two weeks during the patient's period of hospitalization. At its discretion, the Committee may order consultation, a revised treatment or the discharge of the patient to a convalescent or incurable hospital or elsewhere.

(If the period be limited, some arrangement for the further remuneration of the hospitals should be made.)

12. Hospital benefits shall be:

- (I) (a) Ward accommodation.
- (b) Routine floor nursing, as supplied with ward accommodation.
- (c) Laundry, exclusive of personal laundry of the patient.
- (d) Full intern service if interns are available.

- (e) Ordinary medication. (This includes saline and glucose injections and such pharmaceutical preparations as are included in the British Pharmacopoeia, the United States Pharmacopoeia, or the Canadian Formulary.)
 - (f) Laboratory services, which would include routine laboratory examinations, such as routine urinalyses, blood counts, including differentials, blood sugars, throat swabs, sputum and gastric contents analyses, and Kahn, Hinton or Wassermann tests; but not those involving extensive investigations, unusual examinations or special studies.
 - (g) Dressings, splints and appliances as would ordinarily be supplied on a ward service to paying patients.
 - (h) Use of operating room.
 - (i) Anaesthetic material as provided by the hospital.
 - (j) Physiotherapy only as supplied without charge to other paying patients.
 - (k) All other necessary hospital supplies and appliances which would ordinarily be furnished on a ward service without extra charge to paying patients.
- (II) All services not included in the above paragraph (I) shall be considered as extras and shall be chargeable therefore in accordance with the schedule of fees set forth in Regulation.
 (This schedule should be drawn up in conjunction with the Committee on Hospitalization and should permit a variation of payment to the hospitals providing more complete services.)
- Among the items to be considered as extras are the following:
- (a) Any medicines approved by the (?) Commission for treatment but not included in the British Pharmacopoeia, the United States Pharmacopoeia or the Canadian Formulary.
 - (b) Laboratory examinations not considered as routine.
 - (c) Blood transfusions.
 - (d) Intravenous therapy, other than routine saline and glucose, and arsenicals if not supplied free to the hospital.
 - (e) Physical therapy other than as provided in paragraph (I).
 - (f) X-ray diagnosis and therapy.
 - (g) Basal metabolism.
 - (h) Electrocardiograms.
 - (i) Orthodiagrams.
 - (j) Radium.
 - (k) Oxygenotherapy and oxygen-carbon dioxide therapy.
 - (l) Professional service of the anaesthetist.
 - (m) Private duty nursing and nurses' board.
 (This clause has been based upon the arrangement with the Department of Pensions and National Health for the hospitalization of C.E.F. and C.A.S.F. patients.)
- (III) Where a hospital desires to accept a flat rate for all patients rather than to receive a basic rate plus itemized extras, such arrangement may be made with the consent of the Commission.
13. There shall be free choice of physician and of hospital, provided such be recognized by the Commission, and provided such physician has staff privileges in the hospital selected.
14. Participating hospitals shall retain the right to determine who shall have the privilege of treating patients within the hospital and extent to which the individual physician may undertake treatments.
- The medical staff, the administrator, or the governing body shall have power to insist upon a consultation whenever such would seem to be in the best interests of the patient. The consultant may be named, and shall be remunerated, by the Commission.
15. Payments to hospitals shall be on a basis of service rendered and shall be in accordance with a schedule of payment drawn up by the Committee on Hospitalization (?) and approved by the Commission (or Minister). All hospital accounts may be subject to review by the Committee on Hospitalization.
16. An adequate business record shall be kept and an accurate and complete case record shall be written for every insured person treated in hospital.
17. The method for making statistical returns and for computing accounts shall be that recommended by the Dominion Bureau of Statistics and the Canadian Hospital Council.
18. (Indigency. Hospitals have found by experience that indigency is often disputed, usually after treatment has been given, and that payment is

frequently hard to obtain. As indigents must be covered, it is obvious that they will be given cards under the Act.)

19. Diagnostic returns shall be made to the Commission. (Adequate legal protection for the hospital making the statement re diagnosis, etc., must be assured.)

20. For the care of transients and others who would not have cards and who would not be able to pay for their hospitalization, some arrangement will be necessary for the remuneration of the hospital.

21. Major surgery shall not be undertaken, except in case of extreme emergency, unless one other qualified practitioner acts as assistant. (This may need modification for isolated communities.)

22. All tissue removed at operation shall be the property of the hospital and shall be examined in accordance with the local hospital and the provincial regulations.

23. (It is presumed that the Act will provide semi-public care only.)

If an insured person desires hospital accommodations which are more expensive than the accommodation provided by the health insurance plan, he may have such accommodations if available, in lieu of those herein provided, by paying the difference between the two charges (room and extras) for such number of days of hospitalization as the insured person is entitled to receive under the insurance plan.

24. (There should be a clause to exclude patients whose illness would ordinarily come under Workmen's Compensation Board jurisdiction or be under the mental health service of the province. This might exclude, also, certain classes coming under the Federal Government, as for instance Indians, war veterans, immigrants, etc., unless it is planned to include all of these groups.)

25. Hospitals approved for the acceptance of insured persons shall employ registered nurses only on their graduate nurse staff.

CHAPTER V

Canadian Life Insurance Officers Association

(November 24, 1942)

I. General Comments on Public Health Measures

We are limiting this first memorandum to the public health aspect for several reasons. One is that it has long been regarded as a proper and appropriate field for government action and involves much less controversial questions than health insurance. There is also apparently widespread agreement that an enlarged public health programme is essential to preserve and improve the public health and is also an urgent need in view of present war conditions and the probable post-war situation. In addition, the problem is much simpler than health insurance, because of actuarial and other technical considerations which are of major importance in the latter field.

The basic purpose of any measure dealing with public health obviously is to improve the national health, thus reducing the rate of morbidity and mortality, and to maintain the national health at the highest level attainable. Any consideration of this subject immediately brings into relief the quite different nature of preventive as compared with purely curative measures. Our Committee has given much thought to the preventive aspect of the problem and in so doing has studied the experience in Great Britain and other countries. The treatment of such illness as cannot be prevented must naturally be undertaken, but there is quite a range of opinion as to the extent and the manner of the government's function in the field of curative services. It is generally recognized that proposals of such far-reaching importance as those of the draft plan for health insurance merit a searching examination of the experience in other countries, with a view to avoiding the difficulties and pitfalls that have been experienced elsewhere. Canada is in a particularly favourable position in this respect because, having no national scheme of health insurance at present, she is better able to profit by the experiences of others in formulating measures calculated to achieve the most favourable results with a minimum of administrative difficulty.

At the same time it is realized that too much reliance can not be placed on the study of previous experiences abroad in fields so greatly subject to change and development as are public health and health insurance. Correctly to interpret and utilize the experience of others on such matters may be very

difficult. Special national circumstances usually have an important bearing on the nature of, and the administrative arrangements for, social measures of any kind. The preliminary indications which reach us from Great Britain in respect to the activities of the Inter-Departmental Committee now conducting a comprehensive survey of social insurance and allied services under the Chairmanship of Sir William Beveridge suggest that recommendations for changes of a major sort, notably in the field of medical care, are about to be made in that country. Such recommendations will naturally tend in many respects to take into account conditions present in Great Britain and therefore may not have a great deal of applicability in such a country as Canada. For these and other reasons we feel it important to emphasize that any Canadian legislation in the fields of public health or health insurance should be based primarily on a thorough appreciation of the national circumstances, institutions, psychology, aspirations, etc., of the Canadian people rather than to rely too much on precedents from abroad, however well those outside methods may appear to suit the very different populations for whom they are designed.

II. Comments on the Draft Plan

It has been noted with approval that the draft plan deals with a number of preventive measures. For example, provision is made for grants to those provinces which provide treatment for persons suffering from tuberculosis, mental illness and venereal diseases. Similarly, the draft legislation contemplates that grants will be paid to provinces for the provision of public health services. In addition, assistance will be granted for the education in public health of physicians, sanitary engineers, sanitary inspectors and nurses; for the conduct of public health studies and investigations; and for the inauguration of physical fitness plans for the development of youth.

However, in the hope that this memorandum may be as definite and constructive as possible, we proceed to list some additional types of services and procedures which it is felt should be covered in any well-rounded public health programme. It is, of course, recognized that important progress has already been made in respect of a number of these matters, but we believe that something further can be accomplished by way of developing a truly comprehensive and well-coordinated system of public health services.

Consultant Services:—Co-operation with provincial (and local) health departments by providing consultant services in connection with a variety of technical activities—e.g., public health engineering and industrial hygiene; control of cancer, tuberculosis and venereal disease; milk sanitation; nutrition; laboratory services, etc. We believe that, for many purposes, these consultant services (particularly in the field of public education to which later reference is made) can be best provided by fully using the facilities already developed by health organizations now operating, e.g., the Canadian Public Health Association, the Canadian Welfare Council, the Health League of Canada, the Canadian Dental Hygiene Council and the Canadian Tuberculosis Association. Our feeling in this respect is corroborated by the experience of The Canadian Life Insurance Officers Association in granting financial assistance to such organizations for many years.

Infectious and Contagious Diseases:—A programme of field and laboratory research into the genesis, control, prevention and cure of epidemic diseases, including more comprehensive compulsory notification of certain illnesses, and practical steps to use the knowledge so gained.

Nutrition:—An intensive programme of research and public education in the field of nutrition. It is recognized that meritorious steps have already been taken in this direction but much remains to be done. As one step, employers might be encouraged to provide well-balanced meals for their employees at their place of work. As a means of lending such encouragement consideration might be given to the feasibility of permitting employers to charge as a legitimate cost of operation for income purposes any expenses thus incurred, provided, of course, that the meals offered to employees meet with certain minimum nutritional standards. A comparable programme undertaken in the schools would also go far to develop a healthy, well-nourished generation of Canadians.

The nutrition problem, we believe, extends beyond the field of public health in that it involves questions of major economic policy. Therefore, any nutrition programme might profitably be integrated with the work of other government departments, e.g., Agriculture, Fisheries, Trade and Commerce, National Defence and Finance.

Child and Maternal Welfare:—Development of facilities to investigate and report upon all matters pertaining to the welfare of children among all classes of the population and to render guidance and services on the basis of such investigation. Such a

programme would involve the study of infant and maternal mortality, accidents and diseases of children, child labour, etc., and should make provision for guidance to parents and services in the fields of paediatrics, orthopaedic surgery, dentistry, nutrition, psychiatry, etc. It is most important that expectant mothers be educated in and afforded adequate prenatal and post-natal care, for which some form of registration of pregnancy would prove to be most advantageous.

Institutional Treatment: Sanatoria:—The provision of adequate institutional accommodation for the treatment of alcoholics and drug addicts. Though not strictly preventive, care of such persons has been long an accepted public health function. The cardinal aims of such a programme would be to protect the community and rehabilitate persons suffering from these maladies, thus enabling them to resume their normal place in society.

Housing Facilities:—The study by trained social workers of problems arising out of overcrowding and lack of proper housing in urban centres and appropriate action to remove such conditions.

This question is, of course, a particularly pressing one at the present time because of the influx of war-workers into our large industrial cities.

Education:—An organized plan of lay education on disease and all other matters related to public health through publications, news releases, conferences, demonstrations, motion pictures, lectures, exhibits, etc.

It is appreciated that it is hardly feasible to organize and carry out the whole of such an ambitious programme at one time, but emphasis is laid upon the need for formulating a programme of this general character as a first objective. The various parts of a public health plan of this type could, of course, and probably should be placed in operation gradually.

It is our opinion that public health measures of the character under discussion should be coordinated but not consolidated with a health insurance plan. In other words, it is our view that the preventive and curative aspects of the whole question should be dealt with as distinct problems, administratively, although we, of course, recognize their close relationship in other respects since they complement each other.

Public health measures are frequently of a nature in which an entire community or a large group of persons are considered and benefited as a whole, while curative measures in event of disability usually concern a particular individual. These and other differences make clear to us that an attempt to administer the preventive and curative aspects in the

manner prescribed in the draft plan will result in practical difficulties. Furthermore, if that were tried, one of them is almost sure to suffer at the expense of the other.

We believe that public health services essential for the public welfare should stand on their own and should not be contingent upon the adoption by a province of measures of any other kind, especially when there may not be general agreement as to the extent to which such other measures are themselves properly subject to governmental operation. We therefore believe that Dominion grants to a province for public health purposes should be conditioned solely upon the need of the province for such assistance, and its proper use of the money for the purpose for which it is intended. In the not improbable event of a province which implemented the draft plan subsequently deciding to modify the insurance feature of its programme, for example, because of its experience thereunder, not only would it be inequitable that its residents be required to forfeit their rights to the public health services being enjoyed by the residents of other provinces, but real difficulties and hardships would undoubtedly arise for many persons, and these would be highlighted by the contrast with neighbouring provinces.

For the above reasons, we are of the opinion that the Dominion by the payment of grants might encourage the provinces to adopt or enlarge public health programmes, but that such programmes should be independent of any action taken by the province with respect to the inauguration of a plan of health insurance. While every effort should be made to coordinate such programmes with any health insurance plan that may be adopted, the satisfactory operation of each would only be hampered by their formal union.

III. Constitutional Authority

Any memorandum of this character would be incomplete without some comment on the constitutional position of the Dominion in legislating on such matters. We believe that the Dominion Government has sufficient authority to deal with certain general matters of policy in the field of public health, and may make grants to those provinces which introduce measures of an approved type. We further believe that the Dominion should take the initiative in formulating broad questions of policy and, by the payment of grants to the provinces, should encourage them to embark upon a comprehensive programme in the field of public health, conforming with such minimum standards as may be recommended by the Dominion and agreed to by the provinces.

CHAPTER VI

Canadian Medical Association

(June 1942)

1. That in the Provinces where Health Insurance is established it be administered under an independent Health Insurance Commission, the majority of whom shall be representatives of organized medicine. There should be close cooperation between this Commission and the Provincial Department of Public Health with a view to making full use of preventive services.

2. That a Central Health Insurance Board and Local Insurance Boards be appointed, representative of all interested to advise the responsible administrative authority.

3. That the professional side of Health Insurance Medical Service be the responsibility of the organized medical profession through the appointment of a Central Medical Services Committee and Local Medical Services Committees to consider and advise on all questions affecting the administration of the medical benefit.

4. That the question of the establishment of local areas for health insurance administration be left to the decision of the individual Provinces.

5. That the whole Province be served by adequate Departments of public health, organized where possible on the basis of provision of individual health supervision by the General Practitioner.

6. That "Regional Medical Officers", to act as supervisors and referees, be appointed, paid and controlled by the Commission.

7. That medical care for indigents and transient indigents be provided under the Plan, the Government to pay the premiums of the indigents, who then receive medical care under exactly the same conditions as other insured persons.

8. That the Plan be compulsory for persons having an annual income below a level which proves to be insufficient to meet the costs of adequate medical care.

9. That the dependents of insured persons shall be included in the medical benefit.

10. That the only benefit under the Plan be the medical benefit.

11. That the medical benefit be organized as follows:

- (a) Every qualified licensed medical practitioner to be eligible to practise under the plan.
- (b) The insured persons to have freedom of choice of medical practitioner and vice versa.
- (c) The medical service to be based upon making available to all a general practitioner service for health supervision and the treatment of disease.
- (d) Additional services to be secured ordinarily through the medical practitioner:
 - (1) (a) Specialist medical service.
(b) Consultant medical service.
 - (2) Visiting Nurse service (in home).
 - (3) Hospital care.
 - (4) Auxiliary services—usually in hospital.
 - (5) Pharmaceutical service.
- (e) Dental service, arranged direct with dentist or upon reference.

12. That the Insurance Fund should receive contributions from the insured, the employer of the insured and the Government.

- (a) Payment of the premium of the insured, in certain proportions to be determined, should be made by the employee, employer and Government.
- (b) Where an insured person has not an employer or where it is not practical for the Government to collect from the employer, the Government should pay in for that insured person what would be the employer's share as well as its own share of the premium.
- (c) Where the insured is "indigent" or has been out of work long enough to come without the scope of the provisions of the Act as relating to an insured employee, the Government should assume payment of the full premium.

13. That the medical practitioners of each province be remunerated according to the method or methods of payment which they select.
14. (a) That the Schedule of Fees in any Health Insurance Scheme shall be the Schedule of Fees accepted by the organized profession in the province concerned.
(b) That all Schedules of Fees be under complete control of the organized medical profession in each province.
15. That the contract-salary service be limited to areas with a population insufficient to maintain a general practitioner in the area without additional support from the Insurance Fund.
16. That no economic barrier be imposed between doctor and patient.
17. That the best possible standard of service be required of the professions and that the remuneration of the professions be consistant therewith.
18. That provision be made for clinical teaching material for medical schools; that facilities be provided for research work; and that time be allowed for post-graduate work.
19. That the plan be actuarially studied and approved before being adopted, and actuarially checked at periodic intervals.
20. That some plan be devised for the provision of pensions for medical practitioners.

CHAPTER VII

Canadian Nurses Association

(June 1942)

Health Insurance Councils

1. It is recommended that all administrative boards engaging or directing nurses under the Health Insurance Act be organized in such a way as to insure that the standard of nursing service and the policies governing conditions of employment and service of nurses be approved annually by the Canadian Nurses Association.

2. It is recommended that all nurses working under the Health Insurance plan be registered in the province in which they work and be members of the Canadian Nurses Association (important because of provinces where membership in Association is voluntary).

3. It is recommended that the nurse representatives on the Dominion Council be named by the Canadian Nurses Associations; that the nurse representatives on the Provincial Councils be named by the Provincial Associations of Registered Nurses, and that in the Province of Quebec both language groups should be represented: It is further recommended that, to effectually coordinate the work, representatives of the different fields of nursing should be rotated on these councils and on regional advisory committees.

Nurse-Directors

1. It is recommended that, as supervision of all nursing service is essential to insure complete and first quality service, nurses appointed to positions in charge of all offices, and their assistants, be carefully selected as to their qualifications, experience, personality and ability to direct nurses and nursing service, and to plan and carry on professional education.

2. It is recommended that a highly qualified registered nurse, according to standards to be set by the Canadian Nurses Association, be appointed as *Federal Director* of nursing service under the Health Insurance Act and that a representative of the Canadian Nurses Association be permitted to sit in at the meeting of the body making appointments, to insure that the appointee meets required standards of qualifications.

3. It is recommended that a highly qualified registered nurse, according to standards to be set by

the Provincial Registered Nurses Association and approved by the Canadian Nurses Association, be appointed in each Province as *Provincial Director*; that in the Province of Quebec, the Provincial Nurse-Director be a bilingual French Nurse, and further that a representative of the Provincial Nurses Association be permitted to sit in at the meeting of the body making appointments to insure that appointees meet required standards of qualifications.

4. It is recommended that one of the duties of the Provincial Nurse-Director be to see that properly qualified registered *Local Nurse-Directors* be appointed to each Health Insurance Regional Set-up; It is further recommended that, in places where the population is predominantly French-speaking, the local Nurse-Director be a bilingual French nurse with the qualifications as outlined above, and the remaining administrative nursing personnel, as well as the nursing staff, be French-speaking, English-speaking or bilingual, according to the population.

5. It is recommended that the local Nurse-Director, after consultation with the Provincial Nurse-Director, select the local nursing staff, be responsible for the nursing administration of the Regional Office, supervision of nursing service, and cooperation with other agencies.

Set-Up of Regional Office

1. It is recommended that a Nursing Service be set up in the Regional Office with adequate professional and clerical staff to provide twenty-four hour service.

2. It is recommended that in meeting the nursing needs of the community, i.e. Public Health Nursing, including Visiting Nursing and Private Duty Nursing in home and hospital, existing nursing agencies and other nursing resources be utilized.

3. It is recommended that a comprehensive system of *Personnel records* for all registrants be maintained in the Regional Office, in order that the Nurse-Director of the Regional Office may have complete knowledge of their qualifications, including special training, general ability, experience, personality, etc; this is to insure that, where service is provided from the Regional Office, only those most suitable will be assigned to cases where any particular requirements must be filled.

4. It is recommended that uniform *nursing records* be used which will provide all the statistical data required by the Federal and Provincial Health Insurance Administrative Boards and that these records be as simple as possible.

5. It is recommended that adequate supervision be provided for all nursing services.

6. It is recommended that all problems or complaints regarding registered nurses, submitted by doctors, hospitals, nurses or patients, be made in writing to the local Nurse-Director of the Regional Office, these to be dealt with by her or in conjunction with the nurse representatives on the Advisory Committee and when necessary referred to the Provincial Nurse-Director.

Salaries and Hours of Duty

1. It is recommended that all registered nurses directly employed under Health Insurance be on a salary basis and that this be graded according to qualifications, experience, aptitude and nature of duties and responsibilities; that, when the Health Insurance Bill has passed and is being implemented, the Canadian Nurses Association have the privilege of recommending a scale of salaries based on the salaries then being paid in each Province, and that there be provision for statutory increases and for study and revision of the salary scale at least every five years.

2. It is recommended that superannuation and pension be provided for all nurses employed on a salary basis under the Health Insurance Act; it is further recommended that, where service is purchased from existing organizations, arrangements be made whereby their nurses may participate in superannuation and pension.

3. It is recommended that the hours of duty be not more than an average of eight per day and forty-four per week; that there be provision for three weeks' vacation and for statutory sick-leave; that the arrangement for the 24-hour service and the seven-day week be a question of administration; that in places where nurses work alone under remote direction from a Regional Office, the Regional Nurse-Director be responsible for seeing that relief is available locally to provide for off-duty time.

Rural Areas

1. It is recommended that, in rural areas where there are County Health Units or municipal health organizations with public health nursing services, these might become the foundations of Regional Offices and be adapted to the standards and needs according to the Health Insurance Act and the qualifications as laid down in the preceding paragraphs of this Brief: it is further recommended that in areas distant from any Regional Office and where no Nursing Organization is in existence, nursing service under the Health Insurance Act be established.

Relationship with Other Agencies

1. It is recommended that the present existing coordination and cooperation between Nursing and Other Agencies—Social, Welfare, Health, etc., should be strengthened and increased.

It is recommended that when the Governments, Federal and Provincial, start organizing the Health Insurance set-up, nurses who have had broad experience in the organization and administration of nursing services be called in to implement all these recommendations; the choice of these nurses to be approved by the Canadian Nurses Association and the Provincial Nursing Associations.

CHAPTER VIII

Canadian Pharmaceutical Association

(June 1942)

(1) We wish to explain that the profession of Pharmacy is governed by the respective Provincial Pharmacy Acts, which set the educational requirements for apprentices; the number of years of apprenticeship (usually three); the length of the College Course (usually two years); issue the licenses and diplomas permitting the operation of drug stores; regulate the sale of poisons and drugs; discipline members when necessary, by cancellation of licenses, or other means; and in general, control the activities of pharmacists insofar as their profession is concerned.

(2) Under this system Pharmacy has equitably, adequately and economically served the public need at every moment in every community of the Dominion, is now doing so, and is prepared to do so in time to come.

(3) This Association maintains that the distribution of drugs and medicines through the recognized and legally regulated pharmacies of the Dominion is necessary to public convenience and welfare.

(4) This Association stresses its profound conviction that a complete public health service requires the distribution of all types of drugs, medicines and surgical appliances, regardless of classification, under the supervision of registered pharmacists.

(5) That all prescriptions under any health insurance scheme be dispensed exclusively by pharmacists, where available, in accordance with the requirements of the respective Pharmacy Acts.

(6) That a uniform and adequate system of pricing be adopted for goods and services and that any schedule drawn up be approved by the provincial pharmaceutical associations.

(7) That no repeat prescriptions be allowed.

(8) That the insured shall at all times be free to choose his own pharmacist.

(9) That under any insurance scheme the insured person shall receive any type of medicine that the physician deems necessary.

(10) That pharmacists be given active representation on any policy-forming commission.

(11) That pharmacy be given adequate representation on any and all federal, provincial and local committees that may be established, whether administrative or advisory.

(12) That any infraction on the part of pharmacists under this legislation be referred to the provincial statutory pharmaceutical bodies for disciplinary action.

(13) That in all matters of dispute pharmacists have free access to the public courts.

(14) Finally, this Association reserves the right to change or qualify any of the above recommendations, in the future, should it be deemed desirable in the interests of the profession.

CHAPTER IX

Canadian Public Health Association

Suggested Preventive Procedures Which Should Be Incorporated In Any Health Insurance Scheme

(December 1942)

Presuming an acceptance of the principle that the general practitioner should in any scheme of health insurance assume a larger measure of responsibility in the field of preventive medicine, four questions arise:

First—the extent of payment and how such payment is to be made;

Second—the scope of the services to be offered by the general practitioner;

Third—the relationship between the general practitioner and the local public health department;

Fourth—the standardization of procedures and direction of the service.

In respect to the first of these—it is essential that the remuneration be adequate and that payment for such services be defined in the governing legislation.

As to the second—

Adequate pre-natal and post-natal supervision should be provided, which should include serological examination for syphilis;

Regular supervision should be extended throughout the period of infancy and the pre-school period; the child should be protected during this period by the family physician by the administration of all immunizing agents of proven value;

As a pre-requisite to admission to school the child should present to the school principal, on the appropriate form, a statement as to his present physical condition in required detail;

Regular supervision should be extended to the school age child either at fixed age periods or on the recommendation of the school health staff; advantage should be taken by the physician of available consultant opinion in matters when such opinion is necessary both in respect to physical and mental health;

Such supervision should be extended not only to the elementary but to the secondary school age group;

A pre-employment certificate, again on the appropriate form, should be required of all adolescent children leaving the school for work.

At the appropriate age level, and governed by circumstances, tuberculin testing should be carried out and provision made for the X-ray examination of positive reactors.

The responsibility for the diagnosis and treatment of venereal disease would presumably be delegated to the general practitioner.

The regular examination of the adult who is apparently well might rightly be considered as one of his responsibilities.

Pre-marital examination.

Third—

It is expected that there will be a well established community health service which will in the main concern itself with the protection of the public health in respect to environmental sanitation, adequate supervision of perishable foods and their distribution; communicable disease control, the conduct of state laboratories and clinics to aid the practitioner in diagnosis, local divisions of vital statistics, etc.

An official interest in the conduct of hospitals for the care of the mentally ill, and for sanatoria and public hospitals receiving financial aid from the Government.

Fourth—

There should be a general acceptance by the profession of methods and procedures to be carried out in respect to pre-natal and post-natal supervision; supervision of the infant, the pre-school and the school age child, etc.

Adequate records should be kept to permit of the satisfactory completion of the certificates required for admission to school and employment;

A measure of supervision, advice and direction will undoubtedly be necessary for some time in the conduct of these procedures, otherwise a percentage of the profession who are so minded might fail to keep the appropriate relationship between the preventive and therapeutic aspects of their responsibilities.

The implementing of such a programme would of necessity have to be guided by the representatives of organized medicine and the official health agencies.

Recommendation of the Committee on Public Health of the Canadian Public Health Association

(January 1943)

The Committee desires to recommend:—

1. That any proposed Provincial Act as related to health insurance be so drawn that a provincial government, after consultation with professional and other groups concerned, may administer such Act through the provincial department of health or by a commission responsible to the Legislature through the Minister of Health.

2. In the event that the Act is administered through the provincial department of health, it is recommended that:—

(a) For the purpose of administering and carrying out the provisions of the Act and the regulations thereunder, there shall be established within the Department a Division of Health Insurance.

(b) There shall be appointed a Director of the Division of Health Insurance, chosen from a panel nominated by the Provincial division of the Canadian Medical Association,* who shall be a physician preferably with a degree in public health, whose duties shall be to administer and carry out the provisions of the Act by direction of the Minister; to keep the Minister informed in regard to the activities conducted in virtue of the Act; and to make recommendations to the Minister in respect of the operation thereof.

(c) The Lieutenant-Governor in Council shall appoint and employ such other personnel as may be required for the administration and enforcement of the Act and shall determine their duties and fix their remuneration.

(d) There shall be created a Provincial Advisory Council on Health Insurance consisting of the Deputy Minister of the Department who shall be Chairman, the Director of Health Insurance of the Department who shall be Secretary, a representative of the Provincial Medical Association, and such other persons comprising a representative of the pharmacal, nursing and dental professions; of hospitals, labour, industry and agriculture; and of women's urban and rural organizations, respectively; as may be appointed by the Lieutenant-Governor in Council, and who shall hold office for three years.

3. In the event that the Act is administered by a Commission, it is recommended that:—

(a) The Commission shall consist of not less than three and not more than five members. The Deputy Minister of Health shall be a member, *ex officio*. The chairman of the Commission shall be a doctor of medicine, preferably with training in public health, regularly qualified, duly licensed and in good standing in the province and having practised medicine for at least ten years. He shall be appointed by the Lieutenant-Governor in Council.

(b) There shall be created a Provincial Advisory Council on Health Insurance consisting of the Deputy Minister of the Department who shall be Chairman, the Chairman of the Commission who shall be Secretary, two representatives of the Provincial Medical Association, and such other persons comprising a representative of the pharmacal, nursing and dental professions; of hospitals, labour, industry and agriculture; and of women's urban and rural organizations, respectively; as may be appointed by the Lieutenant-Governor in Council, and who shall hold office for three years.

*This wording will have to be changed to take care of the situation in Quebec.

CHAPTER X

Catholic Hospital Council of Canada

Considering that Sisters' Hospitals have very special characteristics which have helped them to carry on their wonderful work since the origin of Canada, three hundred years ago;

Considering that there are in Canada 165 Catholic Hospitals, providing 19,879 hospital beds and 1,961 bassinets, which represent 34.1% of the total number of hospital beds in Canada, and to these hospitals are attached 74 Catholic Schools of Nursing, and the percentage of Catholic nurses in Canada is 42%;

Considering also the generous contribution of the Catholic Sisterhoods to Canada inasmuch as they have toiled for so many years, often under very difficult situations, regardless of self profit;

Considering that these institutions are very different from municipal institutions, particularly in their philosophy of nursing, it is hoped that in the set-up of Health Insurance, and in drafting the Act which will govern its application, due consideration will be given to these institutions, in order to help the Sisterhoods to maintain their noble work, undisturbed and free in their devotedness to the sick and afflicted, with the same sacrificing spirit as they have in the past.

Presuming that the foregoing statement has been considered in earnest sympathy, the Nursing Service Division of the Catholic Hospital Council of Canada submits the following:

General Recommendations

I. It is recommended that the organisation of Health Insurance not interfere with the present set-up of nursing in Sisters' Hospitals, including those hospitals where Sisters are employed as local administrators, supervisors of nursing or nurse educators.

II. In order to maintain good understanding with the government appointees and other groups interested in Health Insurance, also to make these appointees and other groups more familiar with the problems confronting Catholic Hospitals, it is recommended that the Nursing Service Division of the Catholic Hospital Council of Canada be represented on all Councils and Boards of the Health Insurance set-up, Federal, Provincial and Regional.

Health Insurance Councils

I. It is recommended that all Boards engaging or directing nurses, in the set-up of Health Insurance, be

organised in such a way to insure that standards of nursing, policies governing nursing and conditions of employment in Sisters' Hospitals, be approved annually by the C.N.A. and by the Nursing Service Division of the C.H.C.C.

Nurse Directors

I. In order to afford better understanding of the philosophy of Sisters' Hospitals and thereby promote co-operation, it is recommended that, if available, Sisters named by the C.H.C.C. be appointed supervisors of nursing service in Sisters' Hospitals. These would act as associate directors to Federal, Provincial and Regional Directors of nursing service, insofar as Sisters' Hospitals are concerned and with similar powers as laid down for the other nurse directors in the Health Insurance set-up. If Health Insurance is on a provincial basis, in provinces where Sisters' Hospitals are not sufficiently numerous to occupy a full-time supervisor, she might be employed on a part-time basis in several provinces.

Qualifications

I. Although the nursing personnel in Sisters' Hospitals is as well qualified as in other hospitals, it is recommended that such qualifications be determined not only by the C.N.A. but also by the Nursing Service Division of the Catholic Hospital Council of Canada.

II. It is recommended that Sisters be given free choice and full control over the nursing personnel of their institutions, providing they conform to the standards laid down by the C.N.A. and the Nursing Service Division of the C.H.C.C.

III. It is also recommended that the word "qualified" be determined by the Committee on Health Insurance before organizing their work. In the present report the word "qualified" is meant to say: a registered nurse in good standing.

Standards

I. It is recommended that standards of nursing service and policies governing nursing and conditions of employment for nurses in hospitals, in the set-up of Health Insurance, be approved by the C.N.A. and by the Nursing Division of the Catholic Hospital Council of Canada.

Registries

I. It is recommended that Catholic Hospitals be preferably provided, through the registries of Health Insurance, with graduate nurses of their respective schools. Catholic families should be provided with Catholic nurses.

II. It is recommended that, if complaint is made to the office of Health Insurance, by doctors, nurses or other persons, it shall be made through the Director of nursing service of the hospital concerned, and if it is made otherwise, the officer of Health Insurance receiving the complaint will communicate with the nursing director of that hospital, before decision is taken with reference to the complaint.

Regional Office

I. It is recommended that for the purpose of consultation the Commission must have recourse to a Committee representative of registered nurses of the provincial R.N.A. and of the provincial Nursing Service Division of the C.H.C.C.

II. Where for the purpose of this section, the interests of nurses in a particular region or area are concerned, rather than of the nurses of the province as a whole, it is recommended that the Commission recognise a Committee of nurses appointed by organisations which are representative of registered nurses of the area in question.

III. It is recommended that in Provinces where there is no Civil Service Act, such an act be established.

IV. It is recommended that in Sisters' Hospitals the professional and non-professional staff be secured and appointed to their respective positions by the authorities of the Hospital concerned.

It is recommended that when governments, Federal and Provincial, start to organise the Health Insurance set-up, Sisters who have had broad experience in Hospital Nursing, named by the Nursing Service Division of the C.H.C.C., be called in as consultors in regard to these recommendations.

CHAPTER XI

Catholic Women's League of Canada

(June 1942)

Report on Questionnaire Results

Questionnaires were sent out. Many expressed the opinion that a longer period of time was required for study in order to give an intelligent answer. The majority of the completed questionnaires gave an affirmative answer to the different questions. With one or two exceptions, in favour of the Provincial Minister of Health, or a Dominion-Provincial Commission, the general opinion was that the administration should be under the Dominion and Provincial Ministers of Health.

Answers to the different questions, other than "Yes" and "No", are tabulated hereunder:

Question 1.

"If used in a beneficial manner and with all precautions."

Question 2. (g)

"Offer scholarships—two or three should be made available."

Question 3.

"I think these rules cover everything."

"Trachoma, particularly among Indians and Mennonites."

"Yes, to Summer Camps for underprivileged children where help is needed."

Question 4.

"By indirect taxation."

"To a limited degree."

"Only in case of poor families."

"Would depend on plan adopted."

Question 5.

"It should if it does not become 'State Medicine'."

"To a limited degree."

"In some form or other."

Question 8.

"Anyone earning less than \$3,000 a year."

"Those of small incomes."

Question 11.

"Yes, if without income."

"Within a certain income, not large ones."

"No, many farmers are well able to pay for it."

Question 12.

"In some districts this may be feasible, in others to the contrary."

"Yes, a complete unlimited service."

Question 13.

"Free choice, if objections raised."

"Not necessarily."

"Would depend on attitude of doctor towards Health Insurance Plan."

Question 14.

"On a salary basis."

"On a fee basis."

"This question should be left for doctors to decide."

Question 16.

"This question needs a great deal of study re cost of administration and as to whether the National Defence Tax could be maintained after the war for the purpose of paying Health Insurance."

"All." Re suggestion that National Defence Tax be maintained after the war in whole or in part and ear-marked for Health Insurance. "To the best advantage."

"All of them might help."

"It would be a splendid plan for all of them to contribute."

"Only (c) and (d) should contribute."

"This suggestion has the germ of a workable idea. If huge sums can be raised for destructive purposes in war time, it should be practicable to raise sufficient in peace time to carry out a constructive program which will benefit the whole nation."

"There will certainly have to be a special tax but one not so bound by red tape as to penalize one certain class against another."

(b) "Employee"

"If employee can, but should have it anyway."

Question 18.

"Yes, by a Commission."

"Preference towards Health Officer."

"Both cooperating."

Question 19.

"Lay representation on all committees."

"Yes, in conjunction with the Commission."

"Not entirely, largely however; supervision but not final decision."

Question 20.

"Need more consideration on this point."

CHAPTER XII

Federated Women's Institutes of Canada

(August 1942)

All the Provinces were interested in the subject of Health Insurance, but, judging by the answers, I do think a great deal of education along this line is necessary before any form of Health Insurance could be put across successfully."

Two of the Provinces asked questions like this—"What is the difference between Health Insurance and State Medicine? How can we have Health Insurance and Industrial Medical Schemes, Trade Union Schemes, etc.? What would the probable cost be, etc.?"

Answers:—

No. 1. Majority feel preventive medicine should be part of Health Insurance.

No. 2. All answered in the affirmative.

No. 3. Further subventions for *Blind*, Tonsil, Dental and Eye Clinics in rural areas—Sanitary Inspectors for Public Schools and Research.

No. 4. Majority feel it would not be effective unless compulsory.

No. 5. & 6. Great difference of opinion. Some felt it should be only for those whose incomes are below \$3,000. Others felt if it is *Government*, every one should benefit; still others felt it would not be effective unless it included everybody.

No. 7. Majority did not favour scheme as adopted in England but should be improved upon. One Province favoured plan adopted in New Zealand.

No. 8. Yes.

No. 9. Yes.

No. 10. Yes.

No. 11. Yes.

No. 12. Yes.

No. 13. Choice of Doctor if possible.

No. 14. Great difference of opinion—
Two Provinces expressed the opinion a-b-c-d., all contribute; others, it should be Dominion, Provincial and Municipal; others felt it was a matter requiring knowledge and thought to answer.

No. 15. Unanimous "Yes".

No. 16. Difference of opinion. Some favoured Defence Tax; others, special Health Tax.

No. 17. Yes.

No. 18. Commission.

No. 19, 20, 21. In most cases I would judge by answers the questions not clear.

23 & 24. Majority favoured National Commission.

CHAPTER XIII

La Fédération des Femmes Canadiennes Françaises

(January 1943)

(Translation)

WHEREAS morbidity and mortality rates indicate that the people of Canada are provided inadequately with public health services and medical care;

AND WHEREAS the tuberculosis mortality rate is excessive and can be reduced by the provision of more complete preventive measures and free treatment;

AND WHEREAS the incidence of the venereal diseases is excessive;

AND WHEREAS the incidence of mental illness, and mental deficiency, coupled with inadequate medical care and treatment for those conditions constitute a grave national problem;

AND WHEREAS people with insufficient incomes are unable to provide themselves and their dependents with adequate medical care, nursing and hospitalization;

NOW THEREFORE, the "Fédération des Femmes Canadiennes Françaises" resolves that the Dominion Government take steps to assist the provinces financially in establishing a system of health assurance which will provide their residents with complete public health services, and medical, surgical, nursing and hospital care, on a contributory basis.

CHAPTER XIV

National Council of Women

(July 1942)

Preliminary Program on Post-War Planning

IV. National Health and Nutrition

1.—Dominion leadership, in co-operation with provincial and municipal health departments, in making provision for an adequate program of health, nutrition and child welfare for Canada, aimed at the prevention, control and cure of disease by such means as:

- (a) A nutritional program ensuring diets adequate for health;
- (b) Strengthened and improved public health services, through adequate health departments in all sections of the country, both urban and rural;
- (c) Adequate hospital accommodation for tubercular, mental and mentally-defective patients requiring institutional care;
- (d) Clinics for child welfare, heart diseases, venereal diseases, cancer, tuberculosis and mental disorders;

(e) Medical care through:

- (1) Extension of voluntary health insurance plans;
- (2) Appointment of municipal doctors;
- (3) A governmental plan of compulsory health insurance for those in the low-income groups;
- (4) Free care for those not included in a governmental health insurance plan, who are unable to pay.

2.—An extension of the voluntary health work carried on by various health agencies and by industrial medical services.

VI. The Social Insurances

1.—An extension of benefits under the Unemployment Insurance Act;

2.—The establishment of a national plan of contributory old-age pensions;

3.—The establishment of a national plan of compulsory health insurance, as indicated above.

CHAPTER XV

Trades and Labor Congress of Canada*

(February 1942)

General

It is noted that the proposals are for an act to assist the provinces to establish health insurance and public health services. In effect, this means the sharing of responsibilities by the Dominion and Provincial Governments. Past experience with the Old Age Pension legislation, payment of relief to the unemployed and similar joint Dominion-Provincial measures has shown clearly many weaknesses of this form of joint responsibility and administration, and how it has reduced the effectiveness of these measures to provide the fullest protection at a minimum cost.

To a lesser degree disadvantages exist in workmen's compensation acts because of their being strictly provincial. Especially is this so in regard to industrial diseases such as silicosis, etc., and the proper compensation for these cases is in many instances lacking owing to the refusal of some provinces to compensate for occupational diseases which may have originated while the claimant was working in another province.

It was to avoid similar disadvantages that organized labor as represented by The Trades and Labor Congress of Canada strongly urged and finally obtained a complete national scheme of Unemployment Insurance and Employment Services.

We are firmly convinced that similar national schemes should prevail in respect to all forms of social security and would especially stress this in respect to health insurance if the best interests of the insured persons are to be served.

SUMMARISED, our suggestion is that consideration should be given to re-constituting the whole Act on the basis of a national scheme with the ultimate object in view of this being incorporated as part of a complete plan of social security.

It is of outstanding importance that to cope with the serious wastage caused by the comparatively low standard of national health in Canada and to protect those with smaller incomes from the ravages of avoidable illness, immediate action is necessary to bring into effect the objectives of the proposed Health Insurance Act.

It is recognized that provincial governments are reluctant to surrender control over fields of activity in which they have become even partially entrenched and in the report of the Sirois Commission there is evident desire to meet this circumstance in the

recommendation that health insurance and related matters might be left to provincial administration.

If the Government, therefore, with the knowledge at their command, decided that the inauguration of an exclusively national scheme would entail long delay, then the only alternative may be along the lines of provincial assistance upon which the proposals under review are based. If this course is proceeded with, then the following fundamental changes are suggested in the proposed Act:

Comment on Draft Act Respecting National Health Insurance

The whole measure is founded on practically complete control being placed in the hands of the medical profession and as drawn would result in its being operated primarily for the benefit of the medical profession instead of for insured persons.

Section 3.—We have already set forth our views for preference for a national scheme instead of for co-ordinated provincial status as provided for in this section.

Section 5.—There appears to be an absence of any provision to enforce upon the provinces acceptance of any subsequent amendments to the national act as this section confines itself entirely to methods of approval of changes made in provincial statutes. It will be recalled that difficulties of this kind arose in respect to the Industrial Disputes Investigation Act after the provinces had enacted enabling legislation to give effect to the Dominion Act.

Section 8.—The provision that persons would not be covered by the act whose income is in excess of \$2,400.00 per year sets too low the maximum of earnings. Evidence of this is provided by the difficulties now being met in the administration of the Unemployment Insurance Act.

Section 14.—The object of this section appears to be to provide free education for physicians and is foreign to the principles of the act which is to provide protection for citizens with low incomes.

Section 18.—This places too much power in the hands of one person. It also seems unnecessary to provide that the one holding office should be a physician. These duties would be better carried out

* This submission was based on the First Draft of the Health Insurance Bill.

either by a small commission on which those who pay for the insurance would be adequately represented or, if placed in the hands of a director, then his power to act, especially in regard to making recommendations regarding the operation of the Act, should be prescribed by being subject to the advice of an advisory board. This method is incorporated in the Unemployment Insurance Act even though that Act is administered by a joint commission.

Section 19.—This is entirely unsatisfactory. Not only does it enumerate the numbers of medical men who shall constitute the Dominion Council, but to make sure that the control shall rest with them, it is provided "that the majority of the members shall be licensed medical practitioners in good standing." We presume "in good standing" means only those who comply with all the dictates of the medical association, and thus passes over to the body powers which should remain with government authority. In our view those who pay the contributions should control this Council both in numbers and in every other way.

Section 22.—This should be safeguarded by an addition that such regulations should be on the recommendation of the Dominion Council or Advisory Board.

Omission—There appears to be no provision for Dominion authority to ensure that all employees under the Act shall comply with a national standard of qualifications before being appointed to their positions by the Provincial Governments. This is important if the standard of administration and service is to be maintained.

Comments on Schedule "A"

A Health Insurance Act for Adoption by the Provinces

Section 2.—In the definitions of Dentist, Pharmacist, Physician, and by inference, Specialist, only those in good standing with their respective associations are to be recognized. This 'closed shop' provision precludes entirely the possibility of the use of any other method of treatment such as manipulative services unless, and until, it receives the approval of these designated authorities. Any method of treatment which has proved its value to the satisfaction of a Dominion Council or Advisory Board, controlled by the contributors, should be made available for the improvement of the health of the insured. The designation 'qualified' should be substituted for 'in good standing'.

Section 4.—Mention has previously been made that \$2,400.00 is too low maximum earnings. This should be materially raised.

Section 15 to 22 inclusive:—These sections deal with benefits and the treatment to be provided. We make no comment on these at this time as we recognize careful examination would be necessary as to the cost which provision of these or further benefits would place upon the insured persons, employers and government.

One serious omission is the lack of any payment to the beneficiary while absent from work. With the introduction of Unemployment Insurance, difficulties might easily arise unless some similar payments for loss of earnings through illness can be given. In any event it would need the closest collaboration between the administration of the Unemployment Insurance and of the Health Insurance.

Section 23.—The basis of payment to physicians, specialists and others provided in this section is on a basis which is liable to incite increase in the volume of illness. The more cases treated and the longer treatment lasts would increase the income of those paid on a fee basis. Payments should be wherever possible on a salary basis and in all other cases on a per capita basis.

Section 24.—The last paragraph of this section again places full control in the hands of professional associations on matters which should be left entirely to the decision of the Minister as to the method to pursue to establish the facts in the case of suspension or dismissal of any person charged with the violation of any section of the act or its regulations. It is presumed that if the violator was a member of a trade union it is the intention to leave decision in his case to the union of which he is a member, but even were that so, it would be just as wrong in principle as leaving decisions to the organizations of the professional classes.

Sections 27, 30, 31 and 32.—All these place control in the hands of the medical and similar professional associations and the same objection obtains in respect to this as those set forth in respect to Sections 18 and 19 of the main act.

Conclusion

In view of the above objections, we would respectfully urge that the Act should be entirely reconstituted to take control away from the medical profession and place its administration in the hands of the contributors. Desirable as it is that health insurance should be proceeded with promptly, it is equally important that in any measure that might be enacted, the interests of the great mass of those whose health it is aimed to protect should predominate and that the interest of others paid to render service necessary for this purpose should be of secondary importance.

APPENDICES

APPENDIX A

Countries with Schemes of National Health Insurance in 1942 (with dates when schemes established)

Voluntary	
Australia (1888)	France (1930)
Belgium (1851)	Germany (1883)
Bolivia	Great Britain and Northern Ireland (1911)
Finland (1897)	Greece (1922)
Iceland (1911)	Hungary (1891)
Spain (1887)	Italy (1925)
Sweden (1891)	Japan (1922)
Union of South Africa (1892)	Latvia (1922)
Uruguay	Lithuania (1925)
	Luxemburg (1901)
Compulsory	
Austria (1888)	Mexico (1942)
Brazil (1931)	Netherlands (1925)
Bulgaria (1918)	New Zealand (1938)
Chile (1924)	Norway (1909)
Costa Rica (1941)	Panama (1941)
Czechoslovakia (1919)	Peru (1936)
Denmark (1933)	Poland (1920)
Ecuador	Portugal (1919)
Eire (1911)	Rumania (1912)
Esthonia (1917)	Switzerland (1911)
	Union of Soviet Socialist Republics (1911 & 1922)
	Venezuela (1940)
	Yugoslavia (1922)

APPENDIX BGROWTH OF NATIONAL COMPULSORY
HEALTH INSURANCE IN EUROPE1900 - 1940

MAP NO. 1

1900



APPENDIX BGROWTH OF NATIONAL COMPULSORY
HEALTH INSURANCE IN EUROPE1900 - 1940

MAP NO.2

1910

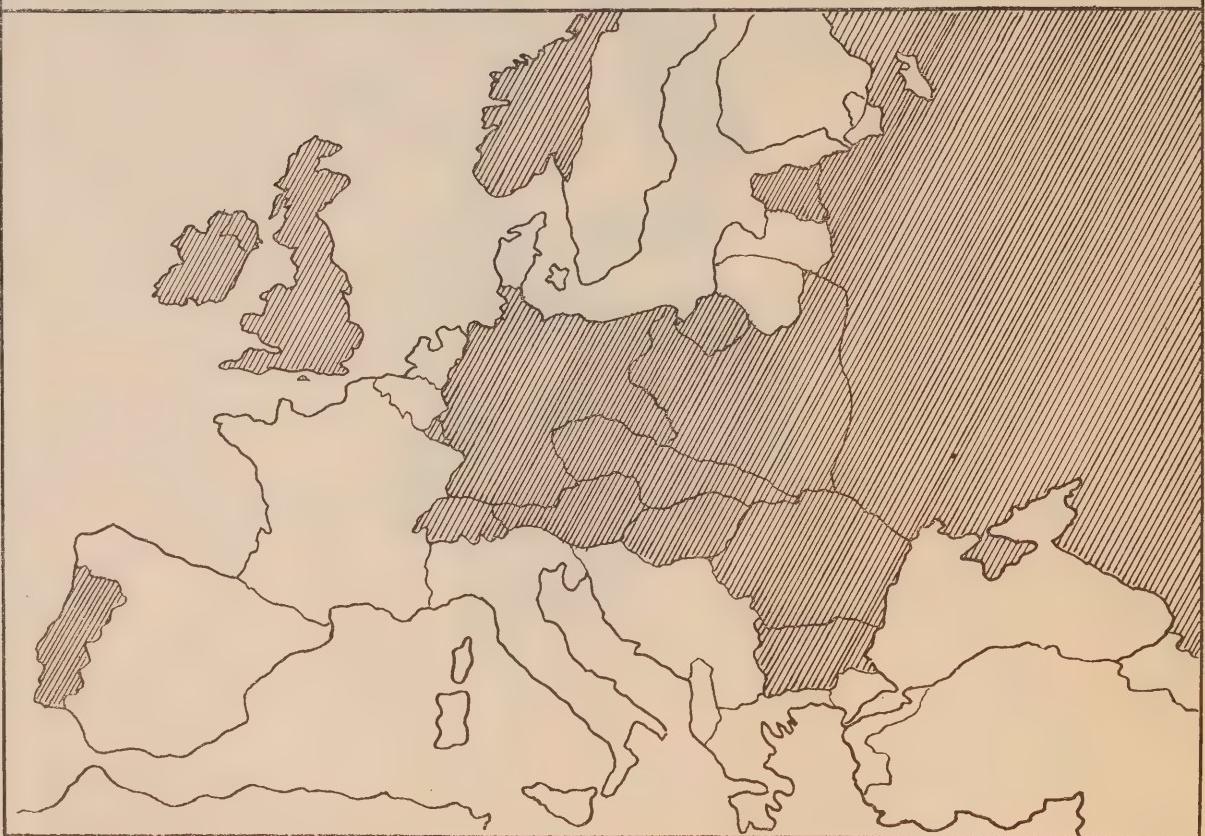


APPENDIX BGROWTH OF NATIONAL COMPULSORY
HEALTH INSURANCE IN EUROPE

1900 - 1940

MAP NO. 3

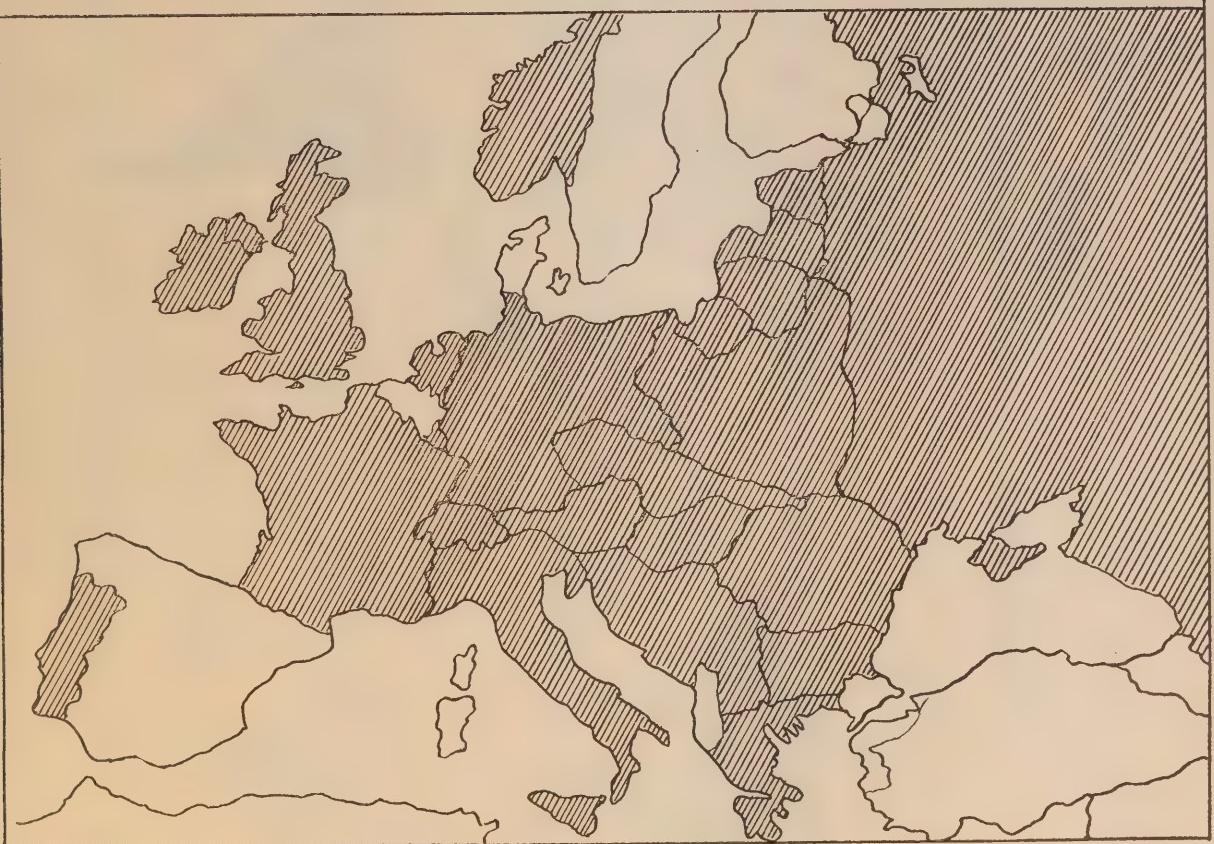
1920



APPENDIX BGROWTH OF NATIONAL COMPULSORY
HEALTH INSURANCE IN EUROPE
1900 - 1940

MAP NO. 4.

1930



APPENDIX B

DISTRIBUTION OF NATIONAL HEALTH INSURANCE SCHEMES THROUGHOUT THE WORLD PRIOR TO THE PRESENT WAR.

MAP NO. 5

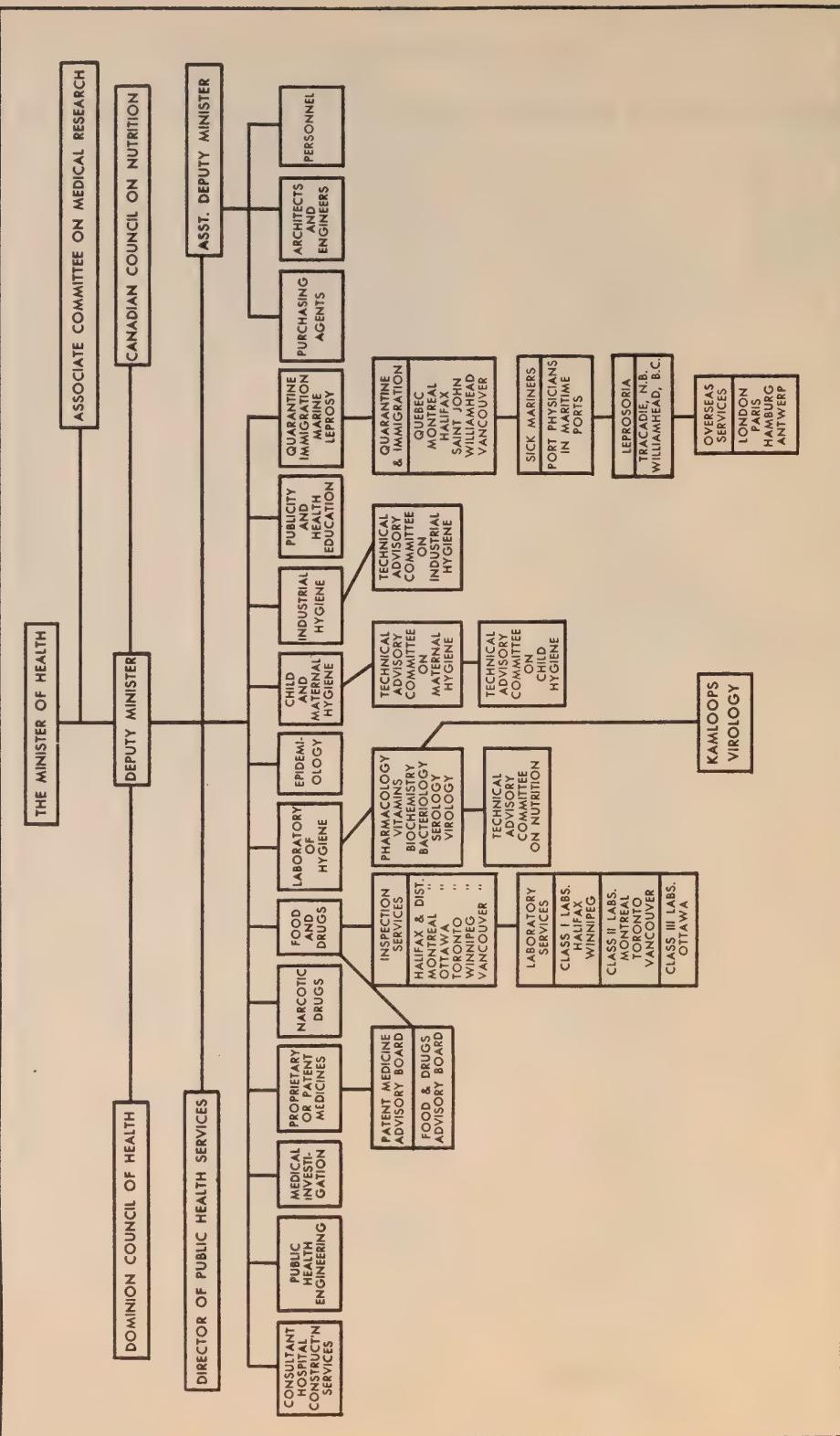


APPENDIX C

Approximate Value of Foreign Currencies in Canadian Funds in Peacetime

<i>Country</i>	<i>Monetary Unit</i>	<i>Approx. Value in Canadian Funds</i>
Australia	pound	\$3.20
Austria	schilling	.18
Belgium	belga	.17
	franc	.033
Bolivia	boliviano	.62
Brazil	milreis	.05
Bulgaria	lev	.01
Chile	peso	.16
Colombia	peso	.57
Costa Rica	colon	.06
Czechoslovakia	kruna	.04
Denmark	krone	.22
Ecuador	sucré	.06
Eire	pound	4.86
Finland	mark	.02
France	franc	.06
Germany	reichsmark	.40
Great Britain	pound	4.86
Greece	drachma	.068
Hungary	pengo	.20
Iceland	krona	.20
Italy	lira	.05
Japan	yen	.28
Luxemburg	franc	.21
Mexico	pesos	.20
Netherlands	guilder (florin)	.55
New Zealand	pound	3.25
Norway	krone	.25
Peru	sol	.155
Poland	zloty	.18
Portugal	escudo	.04
Rumania	lei	.007
Spain	peseta	.12
Sweden	krona	.25
Switzerland	franc	.23
Union of South Africa	pound	4.86
U.S.S.R.	ruble	
Uruguay	peso	.44
Venezuela	bolivar	.28
Yugoslavia	dinar	.02

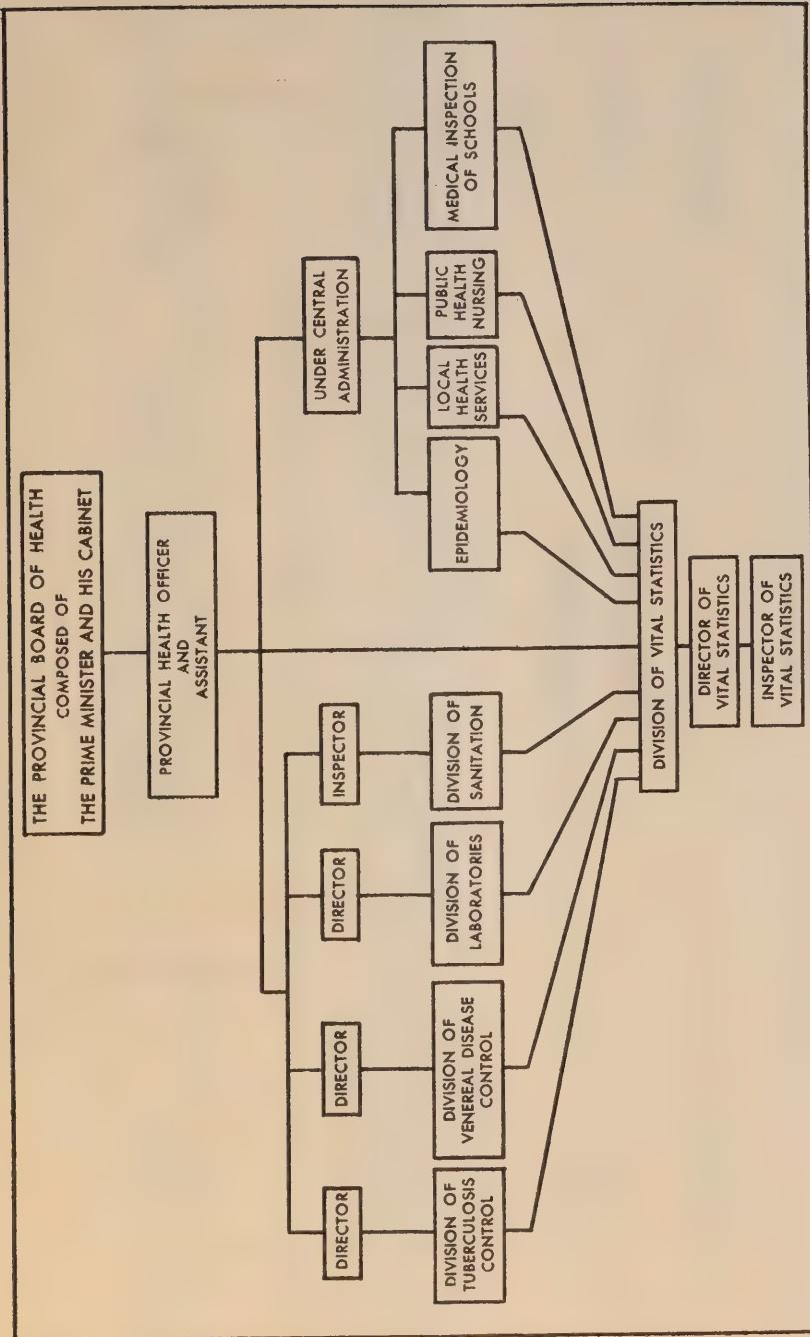
APPENDIX D
(1)



The Organization of the National Health Section of the Department of Pensions and National Health.

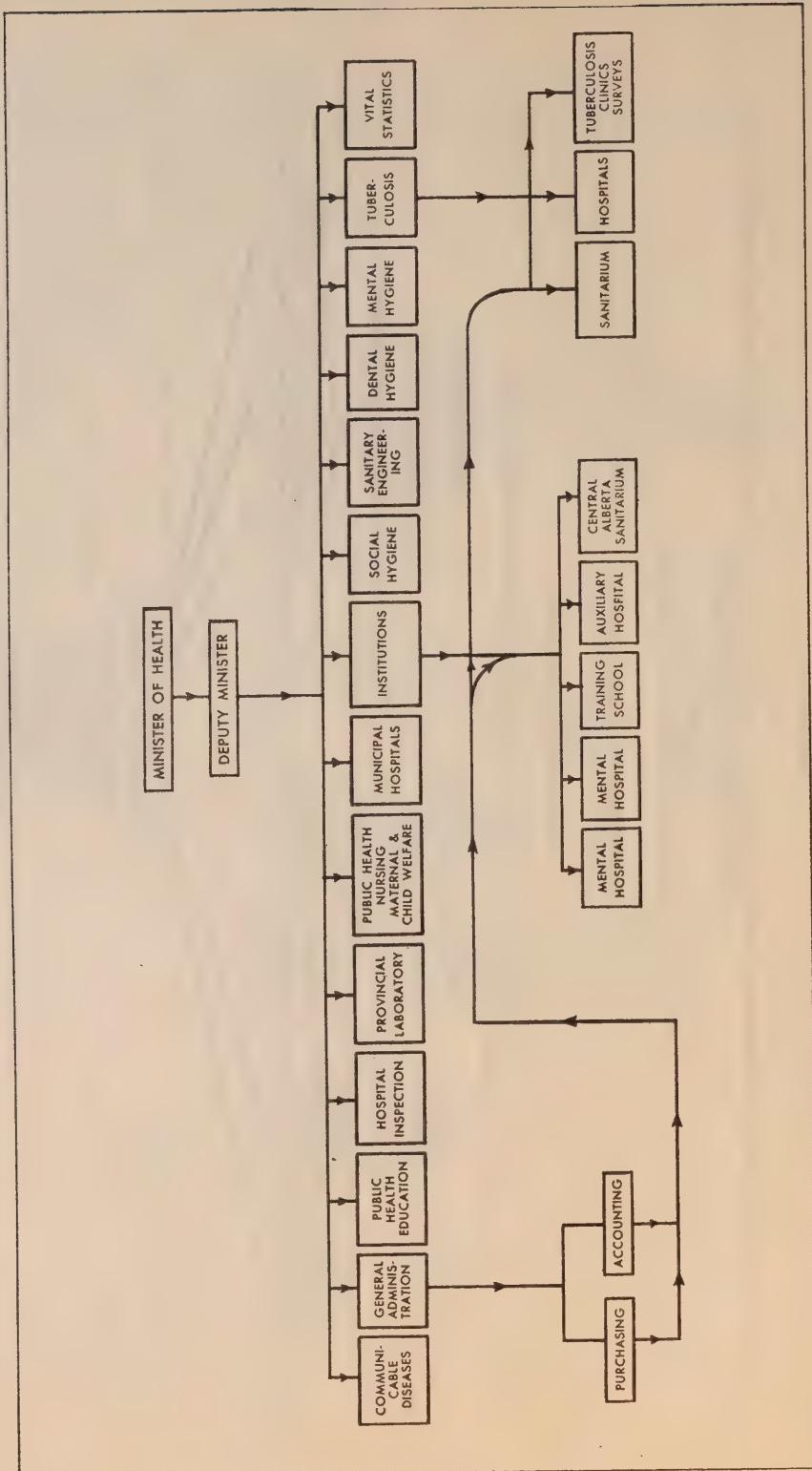
APPENDIX D

(2)



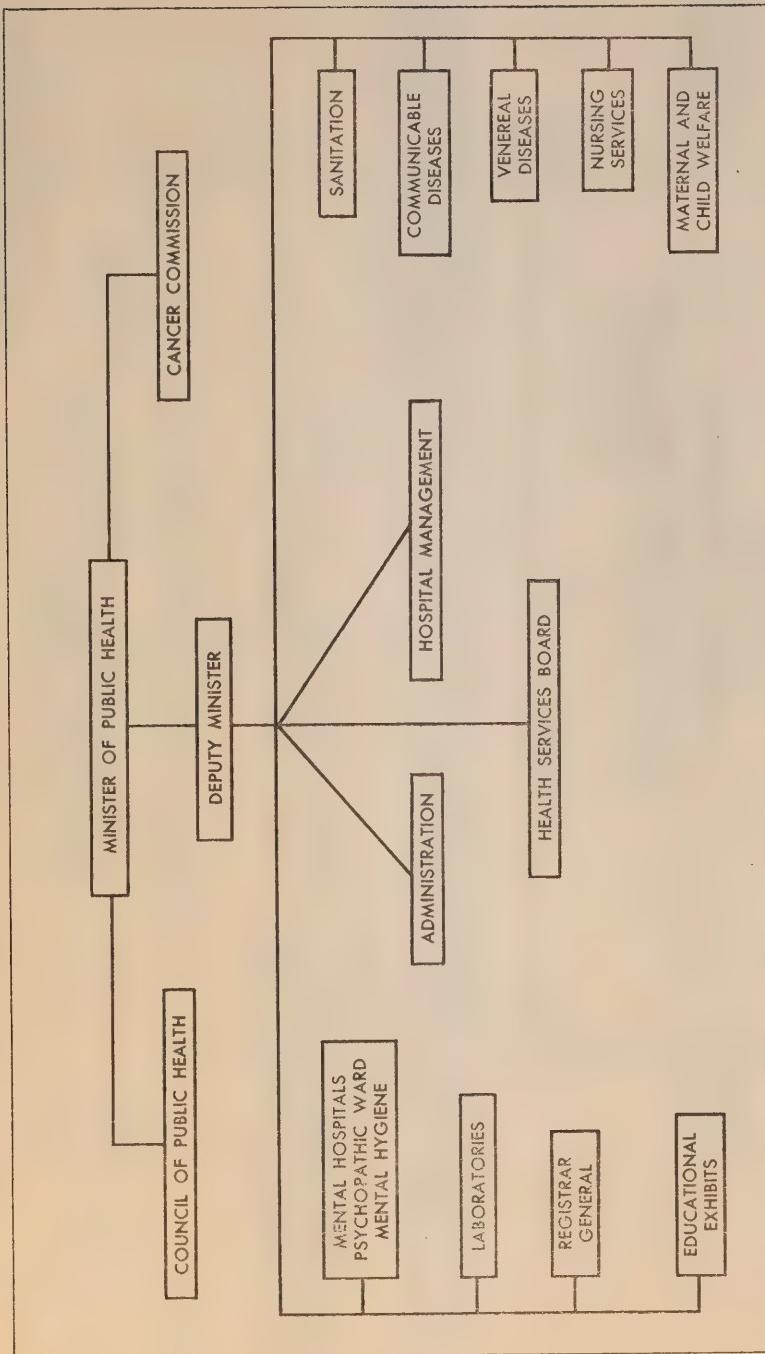
The Organization of the Provincial Board of Health of British Columbia.

APPENDIX D
(3)



The Organization of the Department of Public Health of Alberta.

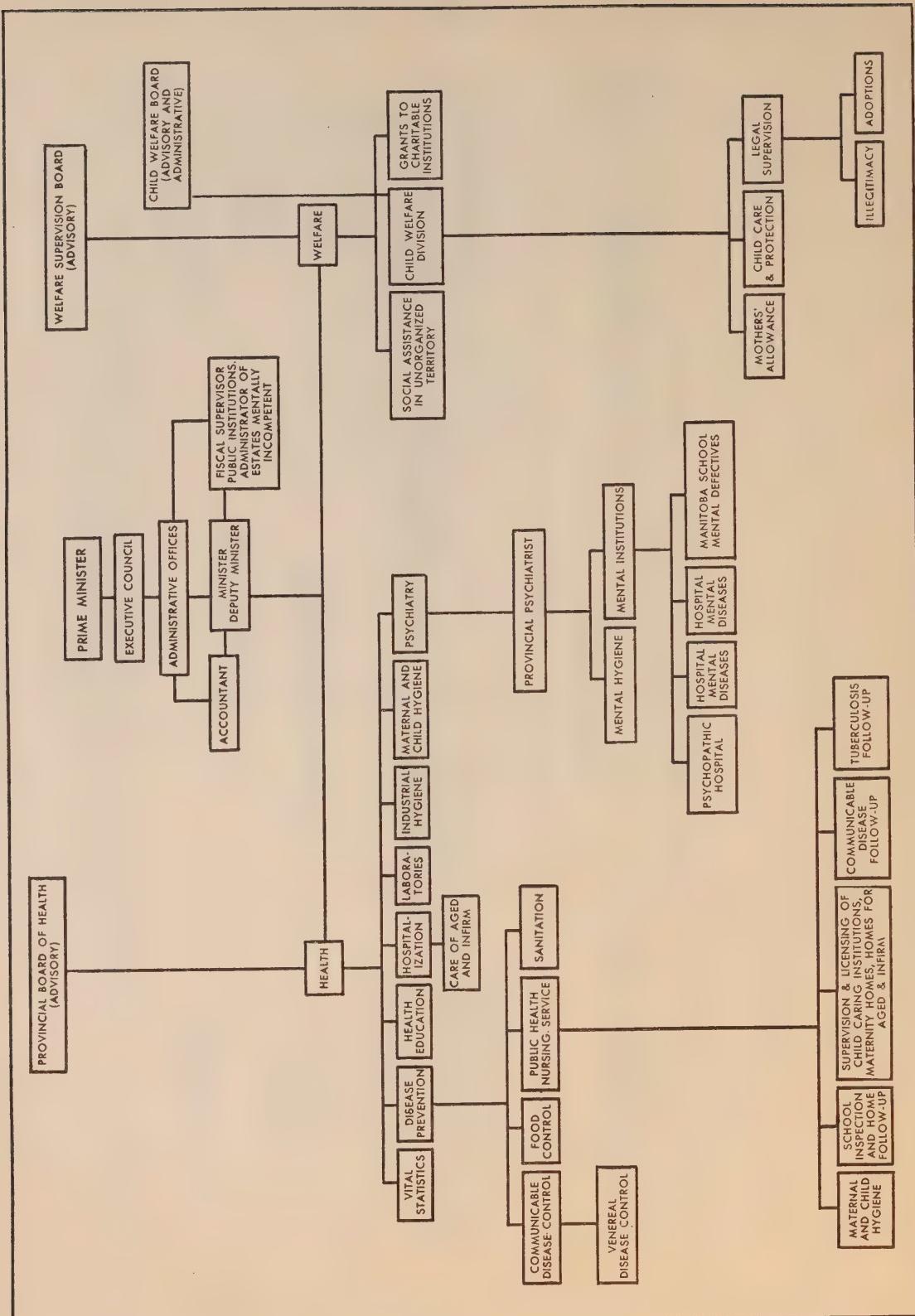
APPENDIX D
(4)



The Organization of the Department of Public Health of Saskatchewan.

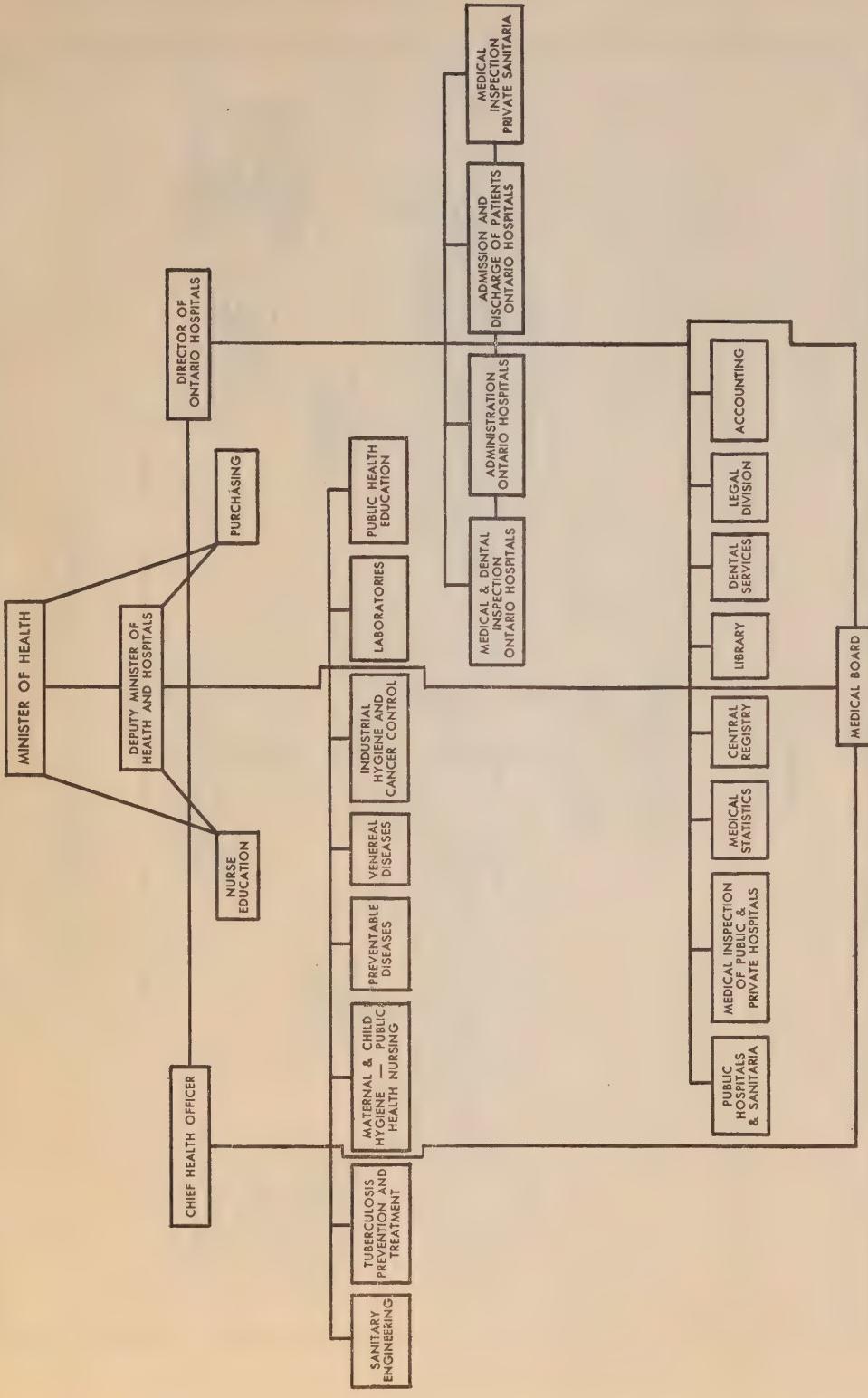
APPENDIX D

(5)

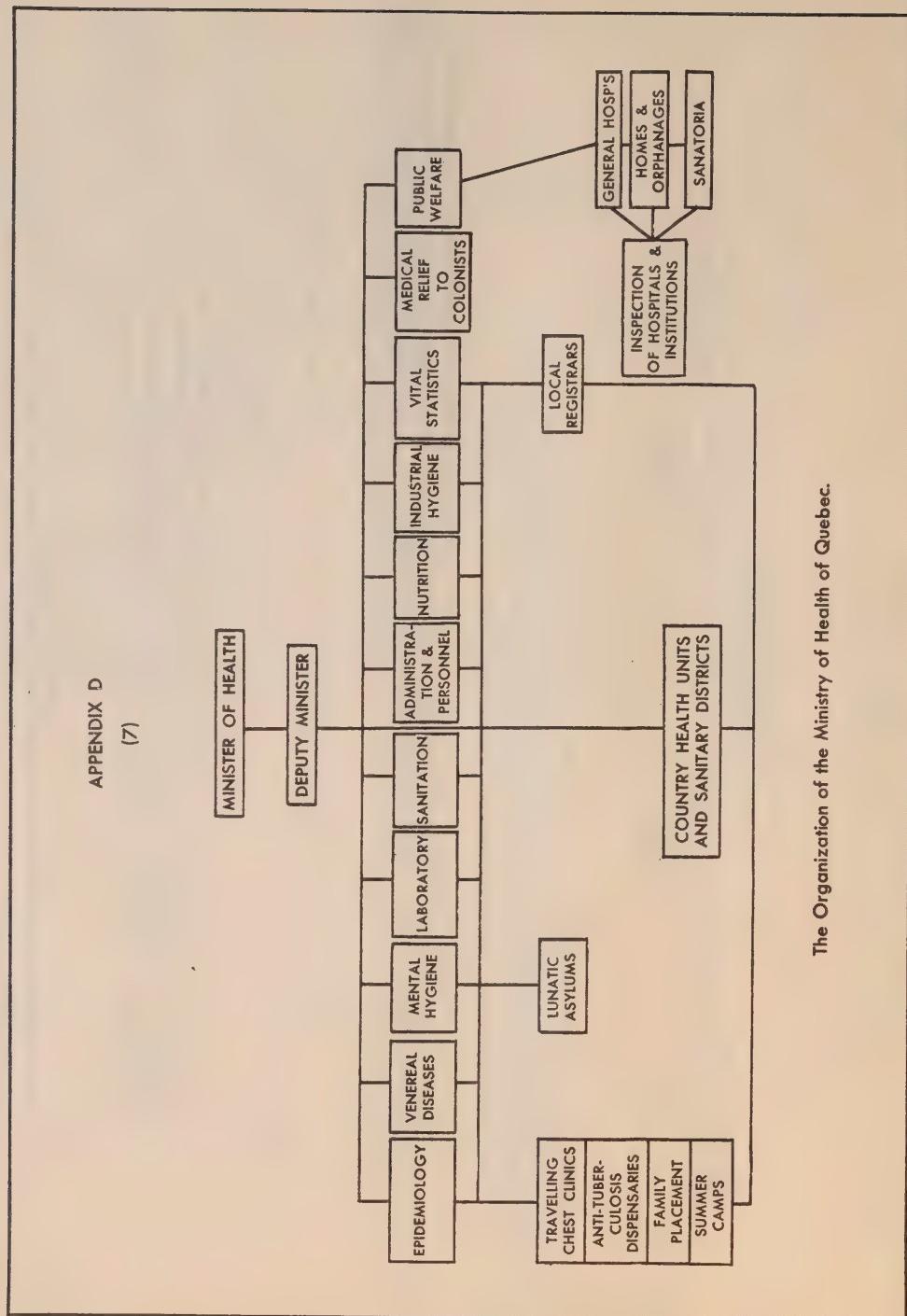


The Organization of the Department of Health and Public Welfare of Manitoba.

APPENDIX D
(6)

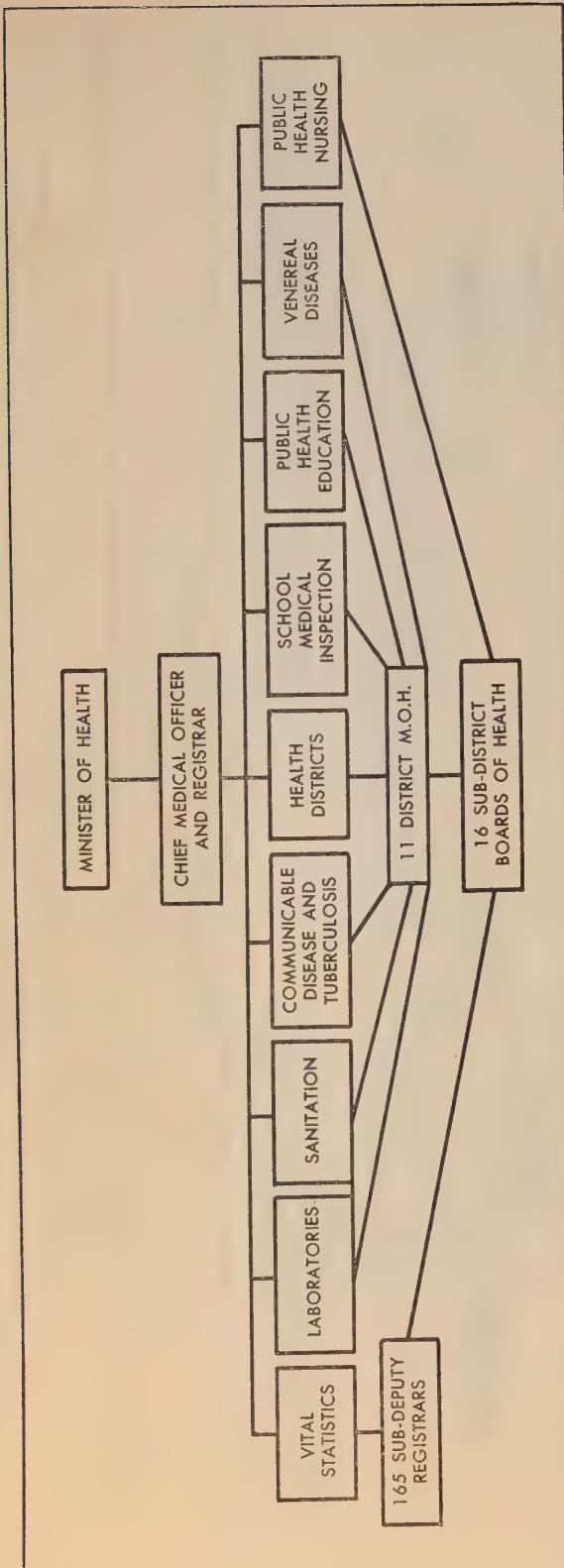


The Organization of the Department of Health of Ontario.



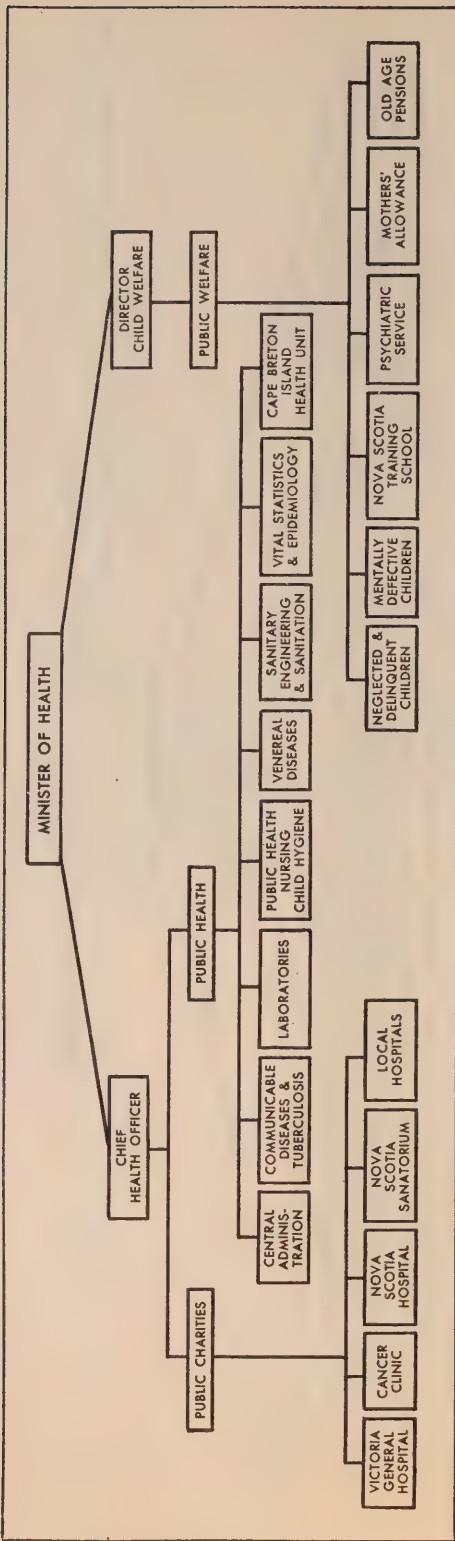
The Organization of the Ministry of Health of Quebec.

APPENDIX D
(8)

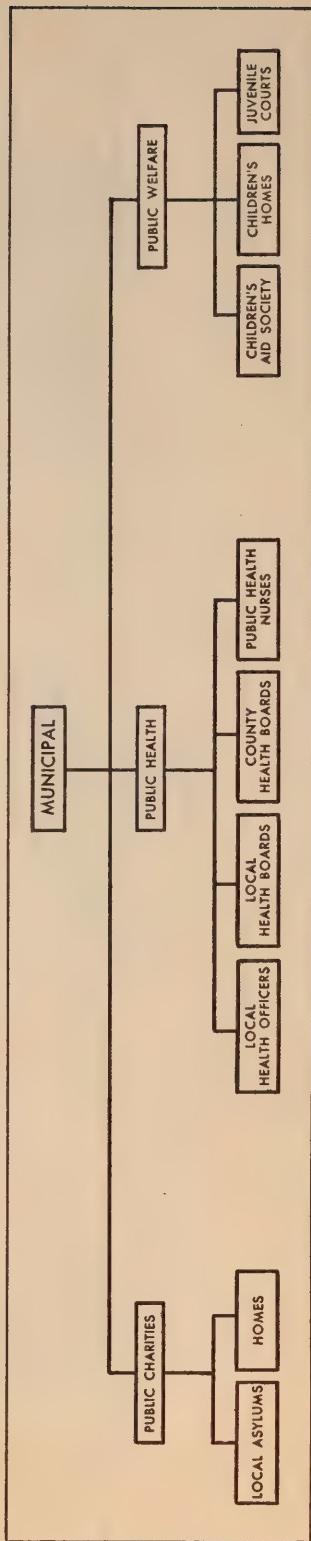


The Organization of the Department of Health of New Brunswick.

APPENDIX D
(9)

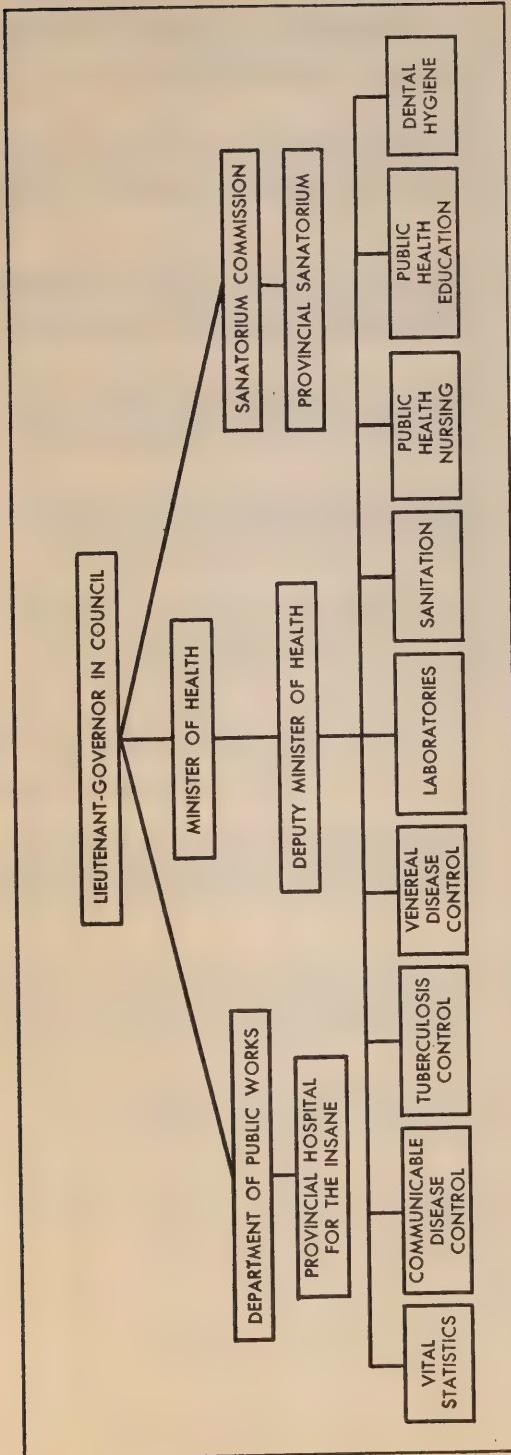


The Department of Public Health of Nova Scotia.



Organization in Municipalities.

APPENDIX D
(10)



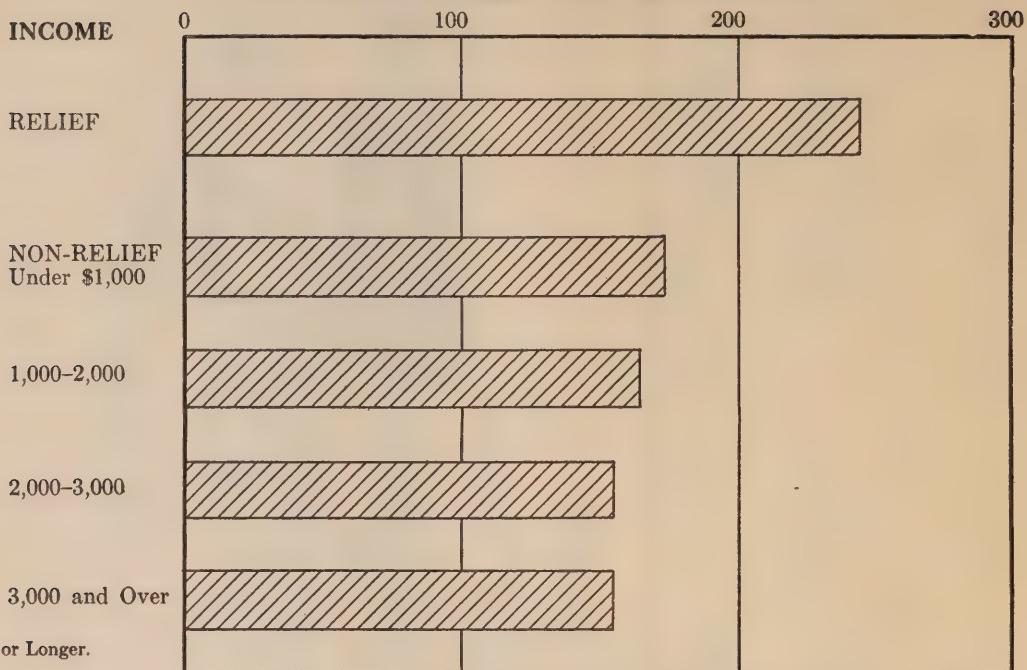
The Organization of the Department of Public Health of Prince Edward Island.

APPENDIX E

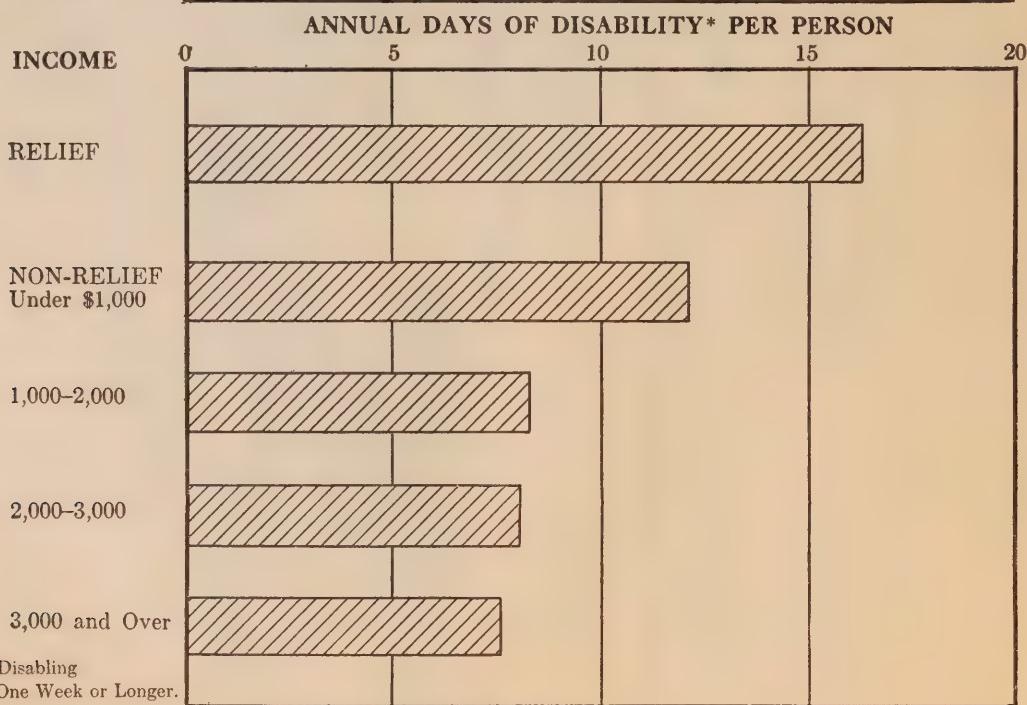
RELATIONSHIP BETWEEN ECONOMIC LEVEL AND MEDICAL CARE

(1)

DISABLING ILLNESSES* PER 1,000 PERSONS



* For One Week or Longer.

* From Illnesses Disabling
For One Week or Longer.

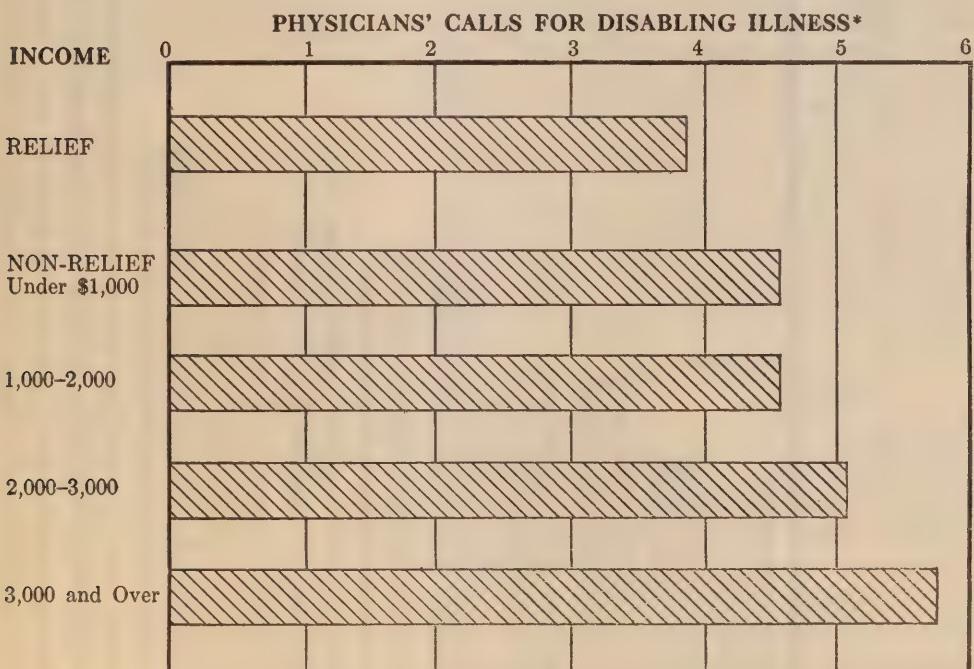
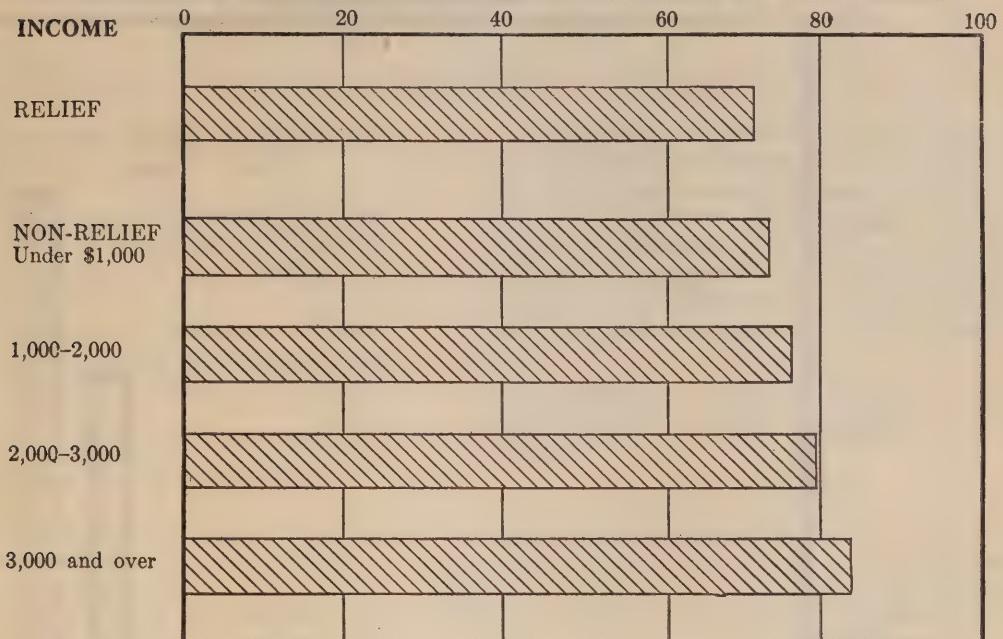
SICKNESS AND ECONOMIC STATUS

The Poor are ill more often than the rich and their illnesses last longer. Source: "Illness and Medical Care in Relation to Economic Status." The National Health Survey, Bulletin 2, U.S. Public Health Service, 1938, p. 4.

Taken from

American Medicine Mobilizes
by JAMES RORTY

APPENDIX E
RELATIONSHIP BETWEEN ECONOMIC LEVEL AND MEDICAL CARE
(2)
PERCENTAGE OF DISABLING ILLNESSES* ATTENDED BY A PHYSICIAN



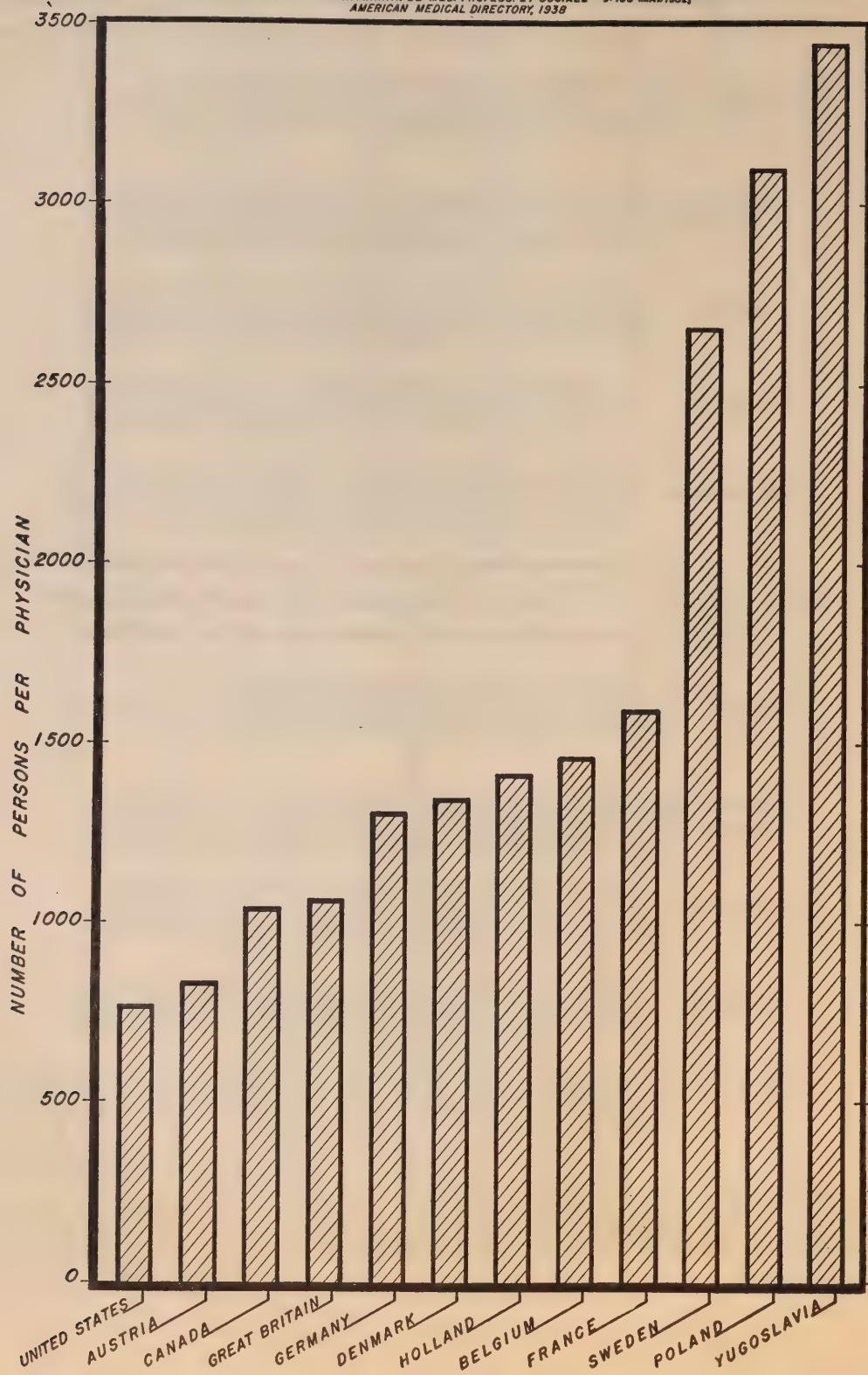
* Disabling for One Week or Longer.

MEDICAL CARE IN RELATION TO INCOME

The amount of medical care received varies directly with income. Those with lowest incomes receive least and those with the highest incomes most. Hospital care is an exception. Those with lowest incomes, who receive free care, obtain more hospital care than middle income groups. Source: National Health Survey 1935-36. Bulletin 2, U.S. Public Health Service, p.5.

Taken from
American Medicine Mobilizes
by JAMES RORTY

APPENDIX F

POPULATION PER PHYSICIAN
IN CERTAIN COUNTRIESSOURCE: REV. INTERNAT. DE MÉD. PROFESS. ET SOCIALE 5:109 (MAY 1932)
AMERICAN MEDICAL DIRECTORY, 1938

APPENDIX G

General Principles of Health Insurance of the International Labour Office

(Recommendation concerning the general principles of sickness insurance, Geneva, May 25-June 16, 1927.)

The General Conference of the International Labour Organization of the League of Nations,

Having been convened at Geneva by the Governing Body of the International Labour Office, and having met in its Tenth Session on 25 May, 1927, and

Having decided upon the adoption of certain proposals with regard to the principles of sickness insurance, the first item on the Agenda of the Session, and

Having determined that these proposals should take the form of a recommendation,

adopts this fifteenth day of June of the year one thousand nine hundred and twenty-seven, the following Recommendation, to be submitted to the Members of the International Labour Organization for consideration with a view to effect being given to it by national legislation or otherwise, in accordance with the provisions of Part XIII of the Treaty of Versailles and of the corresponding Parts of the other Treaties of Peace:

Whereas the maintenance of a healthy and vigorous labour supply is of capital importance not only for the workers themselves, but also for communities which desire to develop their productive capacity; and

Whereas this development is only attainable by constantly and systematically applying provident measures to obviate or make good any loss of the workers' productive efficiency, and

Whereas the best provident measure for these purposes is to establish a system of social insurance which confers clearly defined rights on the persons to whom it applies;

Therefore the General Conference of the International Labour Organization,

Having adopted Draft Conventions concerning, of the one part, sickness insurance for workers in industry and commerce and domestic servants, and, of the other part, sickness insurance for agricultural workers, drafts which lay down minimum conditions which must be complied with from the beginning by every system of sickness insurance, and

Considering that, in order to put the experience already gained at the disposal of the Members with a view to assisting them in the institution or completion of their sickness insurance services, it is desirable to indicate a number of the general principles which practice shows to be the best calculated to promote a just, effective and appropriate organization of sickness insurance,

Recommends that each Member should take the following principles and rules into consideration:

I. Scope of Application

1. Sickness insurance should include within its scope, without discrimination as to age or sex, every person who performs work by way of his occupation and under a contract of service or apprenticeship.

2. If, however, it is considered desirable to fix age-limits by reason of the fact that workers above or below such limits are already protected by law or otherwise, such limits should not apply to young persons who cannot normally be considered as dependent upon their family or to workers who have not reached the old-age pension age; and

If exceptions are made in respect of workers whose earnings or income exceed a specified amount, such exceptions should only apply to workers whose earnings or income are such that they may reasonably be expected to make their own provision for sickness.

II. Benefits

A. Cash Benefits:

3. In order to secure that an insured person who is rendered incapable of work by sickness may recover his health as early as possible, the cash benefit representing compensation for lost wages should be adequate.

For this purpose the statutory scale of benefit should ordinarily be fixed in relation to the normal wage which is taken into account for the purposes of compulsory insurance, and should be a substantial proportion of such wage, regard being had to family responsibilities; but in countries where the workers have adequate facilities, of which they are accus-

tomed to take advantage to procure for themselves additional benefits by other means, a uniform scale of benefit may be appropriate.

4. The statutory benefit should be paid for at least the first twenty-six weeks of incapacity as from and including the first day for which benefit is payable; nevertheless, the period for which benefit is payable should be increased to one year in cases of serious and chronic illness and for insured persons who will not receive any invalidity benefit on the expiry of their right to sickness benefit.

5. An insurance institution which can show that it is in a sound financial position should be authorized:

- (a) To increase the statutory scale of benefit up to specified amounts either for all insured persons or for certain groups of the same, in particular insured persons with family responsibilities;
- (b) To prolong the statutory period during which benefit is payable.

6. In countries where burial expenses are not, customarily or by law, covered by some other insurance, sickness insurance institutions should, on the death of an insured person, pay a benefit in respect of the cost of decent burial; they should also be empowered to pay such a benefit in respect of the burial expenses of the insured person's dependants.

B. Benefits in Kind:

7. Treatment by a fully qualified doctor and the supply of proper and sufficient medicines and appliances should be granted to an insured person from the beginning of his illness and for so long as the state of his health requires it; the insured person should be entitled to these benefits free of charge from the beginning of his illness and at least until the expiry of the period prescribed for the grant of sickness benefit.

8. In addition to treatment by a fully qualified doctor and the supply of proper and sufficient medicines and appliances, there should be available for the insured person, as and when local and financial conditions admit, facilities for specialist services, as well as dental treatment, and for treatment in hospital, where his family circumstances necessitate it or his illness requires a mode of treatment which can only be given in hospital.

9. While an insured person is maintained in hospital, the insurance institution should pay to his dependants the whole or a part of the sickness benefit

which would have been payable to him had he not been so maintained.

10. With a view to ensuring good conditions for the maintenance in health of the insured person and his family, members of the insured person's family living in his home and dependent upon him should be furnished with medical benefit, as and when it may be possible and practicable to do so.

11. Insurance institutions should be empowered to avail themselves, on equitable conditions, of the services of such doctors as they need.

In urban centres, and within specified geographical limits, an insured person should be entitled to choose a doctor from among those at the disposal of the insurance institution, unless this would involve considerable extra expense to the institution.

C. Sickness Prevention:

12. As most diseases can be prevented, an alert policy of prevention is calculated to avert loss of productive efficiency, to render available for other purposes the financial resources which are absorbed by avoidable illness, and to promote the material, intellectual and moral well-being of the community.

Sickness insurance should assist in inculcating the practice of the rules of hygiene among the workers. It should give preventive treatment and grant the same to as large a number of individuals as possible as soon as the premonitory symptoms of disease appear. It should be capable of contributing towards the prevention of the spread of disease and the improvement of the national health, in pursuance of a general policy co-ordinating all the various activities towards these ends.

III. Organization of Insurance

13. Insurance institutions should be administered, under the supervision of the competent public authority, in accordance with the principles of self-government, and shall not be carried on for profit. The insured persons being those who are the most directly interested in the working of the insurance scheme should, through elected representatives, have an important part in the management of the insurance system.

14. A good organization of medical benefit and, in particular, the efficient provision and utilisation of medical equipment embodying the results of scientific progress can be most easily secured—except in certain special circumstances—by concentrating action on a territorial basis.

IV. Financial Resources

15. The financial resources for the insurance scheme should be provided by contributions from the insured persons and contributions from employers. The provision thus jointly made can be supplemented to advantage by contributions from public funds, especially for the purpose of improving the health of the people.

With a view to securing the stability of the insurance system, reserve funds, appropriate to the peculiar circumstances of the system, should be constituted.

V. Settlement of Disputes

16. With a view to their being settled rapidly and inexpensively, disputes as to benefits between insured persons and insurance institutions should be referred to special tribunals, the members of which include judges or assessors who are specially cognisant of the purposes of insurance and the needs of insured persons.

VI. Exception for Sparsely Populated Territories

17. States which, by reason of the small density of their population or of the inadequacy of the means of communication, cannot organize sickness insurance in certain parts of their territory should:

- (a) Establish in such parts of their territory a sanitary service adequate to the local conditions;
- (b) Examine periodically whether the conditions required for the introduction of compulsory sickness insurance in the parts of their territory previously excepted from the compulsory scheme are fulfilled.

VII. Seamen and Sea Fishermen

18. This Recommendation shall not apply to seamen and sea fishermen.

APPENDIX H

Resolution on Aims and Functions of Social Insurance

(Adopted by the Second Labour Conference of the American States which are Members of the International Labour Organization, Havana, Cuba, December, 1939.)

The second Labour Conference of the American States which are Members of the International Labour Organization:

Considering that the moral and material welfare of national communities and the full development of their economic resources and of their physical and mental potentialities cannot be attained unless the security of health and livelihood of the workers is organized;

Convinced that compulsory social insurance is the most rational and efficient means of providing the workers with the security of health and livelihood to which they are entitled;

Desiring to contribute to the development and general extension of social insurance in the American States, which are all concerned to increase their production, and to raise the standard of living and biological value of their workers in town and country;

Expressing the common will of the American States to achieve justice and social progress, and inspired by the social insurance regulations established by the International Labour Organization on the basis of an experience already lengthy and carefully tested;

Adopts the following resolution, in order to give expression to the needs and aspirations of the American States, and to promote the rapid and sound development of a well-directed system of social insurance.

Aims and Functions of Social Insurance

(1) Social insurance schemes, which must make the most rational and economical use of the resources at their disposal, are called upon:

- (a) to organize the prevention of such contingencies as sickness, invalidity and industrial accidents, the occurrence of which deprives the worker of his earning capacity and means of subsistence, causes suffering and loss to the worker and his family, and diminishes the productivity of the community.
- (b) to restore as quickly and fully as possible the working capacity lost or reduced by

reason of sickness or accident, and to facilitate the accomplishment of the function of maternity, essential both biologically and socially;

- (c) to supply the means of subsistence necessary in case of cessation or interruption of gainful activity as the result of sickness or accident, temporary or permanent invalidity, unemployment, old age, and premature death of the breadwinner.

(2) As against other methods of collective provision, such as social assistance or schemes of non-contributory pensions, financed entirely out of public funds (which may, however, be the only feasible way of caring for existing cases of need), compulsory social insurance offers substantial advantages:

- (a) it associates the workers concerned, from whom a contribution is required, both materially and morally in the protection of their health and their working capacity,
- (b) it implies the establishment of autonomous insurance institutions, dedicated solely to the organization of prevention and the service of medical and cash benefits;
- (c) it grants benefits in virtue of definite rights, and thus preserves the self-respect of the beneficiary, who is secured against arbitrary decisions on the part of the body responsible for awarding benefits;
- (d) it guarantees the payment of benefits by the assignment of specific resources, and by distributing the cost over long periods in accordance with the rules of actuarial science.

(3) Health security calls for the application of a co-ordinated system of benefits in kind designed to make available to insured persons and their families the resources of modern medicine for the preservation of their health, and for the detection and treatment of disease in its earliest stages. For this purpose the insurance scheme must grant the following benefits, in so far as they are not provided by a public medical service which is generally accessible: general medical

care, supply of medicines and curative appliances; necessary surgical operations and services of specialists; assistance at confinement; dental treatment; necessary facilities for treatment in hospitals and curative establishments.

While providing efficient care for the individual, insurance schemes must, in the interests of the group which they serve, share in the campaign against diseases which are particularly frequent in the insured population, and which cannot be combated or prevented by medical treatment alone, but call for systematic preventive action combined with medical and social measures. Insurance schemes participate likewise in general preventive measures, and contri-

bute to the improvement of the housing conditions of the insured population.

(4) The cash benefits of insurance schemes secure the maintenance of the insured person and his family in case of incapacity for work resulting from sickness or accident, and in the case of unemployment. In order to increase the economic security of the workers, it is necessary to institute, for the invalid and aged, and for widows and orphans, pensions which take account of the ordinary standard of living and of the family responsibilities of the pensioners, and which may not, in any case, fall below a prescribed minimum.

APPENDIX I

Resolutions of the Fifth International Conference of National Associations of Health Insurance Funds and Mutual Aid Societies

(September 1933)

General Resolution

The Fifth Meeting of the International Conference, having approved the report of the Chairman of the International Committee on its work and having noted the views expressed by the accredited representatives of health insurance schemes in various countries,

(1) Reiterates its unaltered belief in the principle of compulsory insurance, which is the only sound basis for a completely effective social insurance system, able to survive any test, in all circumstances and for workers in every occupation;

(2) Expresses the opinion that even the best health insurance schemes to be met with in any country at present guarantee only a minimum subsistence level by their cash benefits and a minimum of medical protection by their curative and preventive measures, and therefore emphasises the danger of any restriction of the basic benefits;

(3) Stresses the capital importance of social insurance, more especially in times of economic depression which lead to a decline in the general standard of living and a reduction in the physical resistance and the purchasing power of insured persons and their families;

(4) Emphasises the urgent social and economic necessity for maintaining the insured status of workers who have become unemployed, and requests the public authorities to provide financial assistance to enable the rights of workers who have long been out of employment to be guaranteed;

(5) Notes the withdrawal of the German National Federation of Health Insurance Funds by decision of the Government Commissioner appointed to manage the Association after the former autonomous bodies had been dissolved;

(6) Decides to prosecute more intensively its efforts to defend and develop social insurance by tightening the bonds between those federations and institutions in every country which, by word and deed, are serving the cause of international collaboration and understanding.

The Position of Medical Practitioners Under Health Insurance

Responsibility for the Organization of Benefits in kind. (1) The Conference is of the opinion that insured persons should receive adequate and appropriate curative and preventive treatment free of charge, subject to the possibility of their being required to bear a fraction of the medical expenses. When the legislation holds the insurance funds responsible for the quality and extent of the medical treatment, the funds should themselves organize and provide medical benefits in kind.

(2) The Conference confirms its view that the insurance should cover the sickness risk as completely and as economically as possible. The great majority of the federations and institutions affiliated to the Conference further believe that this can best be achieved by making the insurance funds responsible for the provision of medical benefits in kind.

Qualifications of doctors attending insured persons. (3) The grant of benefits in cash and in kind depends on the doctor in attendance, who must often possess very wide and highly specialized knowledge in order to be able to decide on applications for benefits and determine whether the worker is incapacitated for employment. He must therefore have a certain experience of his profession so as to be in a position to fulfil the special duties devolving on him.

(4) Wherever the insurance funds are empowered to exercise discretion in the recognition of medical practitioners they should have the right to demand that recognition be made dependent on at least one year's hospital experience, and one year's experience in general practice. Special regulations should be drawn up defining the training required for appointment as confidential medical consultant, chief medical officer or specialist.

Selection of doctors to attend insured persons. (5) The Conference, believing that the selection of doctors to attend insured persons must depend not only on considerations of maximum efficiency but also on other factors varying from country to country, such as the mentality of the population and more particularly of the insured population, the financial

situation of the health insurance scheme, the comparative strength of the interests involved, etc., considers it wiser, for the time being at least, to refrain from laying down binding international rules on this subject.

(6) Nevertheless, a large number of the affiliated federations and institutions which are obliged to provide benefits in kind are of the opinion that the best system, in view of the collective nature of social insurance, is for the funds to select the doctors called upon to attend insured persons.

Contracts with medical practitioners. (7) The Conference considers that the medical service provided by health insurance cannot be adequately guaranteed save by long-term agreements between doctors and insurance funds, these agreements being freely drawn up by the parties concerned.

Such negotiations being more successful if carried through in the general interest and not for the benefit of any single fund or individual practitioner, the Conference recommends that the relations between funds and doctors should be governed by collective agreements between associations of funds and organizations of the medical profession, subject to adaptations to meet local conditions.

(8) When it proves impossible to conclude such agreements because of differences of opinion, and when the medical service is not in the hands of doctors acting as officials of the insurance funds, the funds should have legal power to substitute specified cash benefits for benefits in kind.

Treatment of insured persons. (9) The doctor in attendance must be free to decide on the treatment of the patient, but this does not preclude the requirement that the treatment should be economical and should not involve any useless expenditure on benefits in cash or in kind.

(10) General rules should be laid down for economy of treatment under social insurance. These rules should deal not only with prescriptions for drugs but also with every other method of treatment, diagnosis, hospital care, rest cures, etc. They should indicate treatments which are at once effective and economical.

(11) To prescribe unnecessary drugs or treatment does the patient no good and is a source of loss to the fund. Therefore it should be made legally compulsory for the doctor to follow the rules for economical treatment, in the interest both of the social insurance scheme and of the nation as a whole. The rules should give practical hints on treatment, which

will give the best results at the lowest cost. When two methods are of equal value, the doctor must choose the more economical.

(12) The rules should be drawn up by representatives of the fund and of the doctors, with the help of expert pharmacists.

(13) Patent medicines and proprietary drugs often increase the cost of treatment with no advantage to the patient.

(14) Patent medicines should as a rule not be prescribed unless no substitute can be made up more cheaply from the pharmacopoeia. Patent or proprietary medicines which have not been sufficiently tested or which merely contain well-known drugs in a new wrapping or whose composition is unknown should be excluded from use in social insurance.

Since there are, however, proprietary medicines which have great therapeutic value and cannot be replaced, Governments should see that they are not sold at excessive prices.

(15) The rules for prescribing patent or proprietary medicines should be drawn up by representatives of the funds and of doctors, with the help of expert pharmacists.

(16) The Conference considers that no satisfactory solution of the problem of proprietary medicines can be reached until the official pharmacopoeias have been entirely and radically revised and the manufacture of drugs put under systematic supervision.

Medical Certificates. (17) The medical attendant must be free to decide whether the insured person is or is not fit for work. Reasonable, carefully thought-out rules do not restrict this freedom, but help him in this most difficult and extremely responsible task.

(18) These rules should define clearly the concept of incapacity for work for the purpose of social insurance, taking as a basis the wide experience of the insurance institutions. The commoner groups of diseases, such as tuberculosis, rheumatic troubles, etc., should be treated separately, as should also the main occupational subdivisions. The rules should indicate reliable scientific methods of detecting malingering. But they should also warn doctors of the danger of suspecting a malingerer in every case.

(19) The Conference is of opinion that the best of rules can never be a substitute for experience, thorough examination and the investigation of each individual case in all its aspects. At the same time,

rules are a useful and indispensable guide for beginners and also even for experienced practitioners.

Professional secrecy. (20) The legal provisions concerning professional secrecy for doctors were drawn up in the interest of the patient and such protection must be fully afforded to insured persons. But long experience shows that the sense of responsibility and discretion imposed on the staffs of insurance funds are a sufficient guarantee for the insured person, even when the diagnosis is communicated to the fund.

(21) Sickness insurance cannot fight against social diseases or prevent occupational diseases unless it has knowledge of their causes, based on sound statistics. Unless the diagnosis is known to the insurance fund it cannot carry out this very important part of its duties, nor can it prevent abuses and unreasonable demands for medical attendance.

(22) The Conference considers that it would be desirable for every country to find suitable means and methods for giving the health insurance funds free access to information concerning diagnoses, so that the provisions drawn up in the interest of the patient with regard to professional secrecy do not prove an obstacle to the building up of a really social health insurance scheme able to combat disease.

(23) When the insurance scheme refunds the cost of treatment, the necessary information should be supplied to the medical services of the funds.

(24) A diagnosis communicated to a fund should be accessible only to the officials and services to whom the knowledge is necessary in order to safeguard the health and economic interests of the insured persons and the fund. The diagnosis should be communicated by means of symbols (figures).

(25) The legislative provisions relating to professional secrecy should apply to the staffs of insurance funds in the same way as to doctors, with severe punishments for breach of secrecy. In addition, officials who knowingly reveal professional secrets should be dismissed.

Remuneration of medical practitioners. (26) In general health insurance schemes in which medical benefits are provided in kind by the funds, the system of remunerating the medical practitioner at a fixed rate per insured person is the most satisfactory in view of the collective nature of insurance.

When circumstances permit, payment may well be made through the medical association.

(27) In countries where the law prescribes that the cost of medical benefits shall be refunded by the funds, the rates which they have to pay and the rates normally charged by the doctors engaging in insurance work should coincide.

Participation of insured persons in the cost of medical attendance and drugs. (28) The necessity for paying a share of the cost of medical treatment and drugs may inflict a grave wrong, more especially on those insured persons who are in a particularly precarious financial situation, and may endanger their proper treatment. For this reason the proportion payable by the insured person should be low.

(29) No provision for such participation should be made in countries where insurance is so organized that overfrequent recourse to doctors and the immoderate use of pharmaceutical benefits are checked by other means.

Supervision of the doctor. (30) There must be systematic supervision of the work of the medical practitioner; most of the supervision must be exercised by the confidential medical adviser to the fund.

(31) Arbitration boards or committees should deal with disputes concerning the grant of benefits in cash or in kind. In countries which have adopted the system of free choice, much of the supervision can be left to the medical association concerned, but even then the funds must necessarily have the assistance of a confidential medical adviser who is an expert in such work.

(32) Supervision should be restricted to economy in treatment and checking the existence and duration of incapacity for work, to the exclusion of all other matters. The correctness of the diagnosis or the plan of treatment cannot be checked in every case, for the medical attendant, while exercising his purely medical functions, must be entirely free; he is and must remain wholly responsible for the treatment. If in any particular case the process of supervision reveals some medical error which must be put right in the interest of the patient, the matter must be considered as a purely medical one to be settled by the doctors concerned to the exclusion of any other person or body acting for the fund.

Special training of doctors. (33) Every student of medicine should receive systematic training in the aims and tasks of the insurance scheme and in the special duties of doctors attending insured patients.

(34) In countries where extensive systematic training is given to medical students, no special courses of training for health insurance work are

necessary; but as such training is rarely given at universities, special courses are desirable in the interest both of the doctors and of the insured persons.

(35) These courses should include at least the following points: (a) social legislation, with special reference to national and international social insurance; (b) the social causes of and prophylactic measures for combating social diseases, such as tuberculosis, alcoholism, infantile mortality, acute infectious diseases, etc.; (c) labour hygiene, occupational diseases, industrial accidents, accident prevention and the protection of workers; (d) medical problems which are of special importance in health insurance work and are not adequately dealt with at universities, more particularly economical methods of treatment and methods of proving malingering. Attention should also be devoted to certain selected aspects of the pathology, therapeutic treatment and prophylaxis of those diseases which are most widespread among workers.

(36) These courses will have no practical value unless combined with practical work. That means that the students must have an opportunity of seeing the working of a fund, its medical establishments and the consulting rooms of the medical practitioners attending insured patients. They must also visit specimens of healthy and unhealthy work-

places and have practice in prescribing economical drugs and determining carefully when a person is unfit for employment.

(37) The funds must assist in the work of these courses through their experts and their most experienced doctors; otherwise the courses cannot be really successful.

(38) Supplementary courses of instruction are necessary and useful for health insurance work as for all other departments of medical work. They should be of short duration, so that doctors practising in country districts can easily attend. They should be held, so far as possible, concurrently with other refresher courses for doctors in university towns, so that the health insurance doctors can have an opportunity of bringing their knowledge up to date in other branches of their profession. The curriculum should cover, generally speaking, the latest progress in the four branches of training mentioned above as being of special importance for health insurance work.

(39) The funds should collaborate as far as possible with associations of doctors and with special faculties in the organization of these courses. They should help their doctors to attend by contributing to their expenses. They should also place their medical establishments and their specialists at the disposal of the organizers of the courses.

APPENDIX J

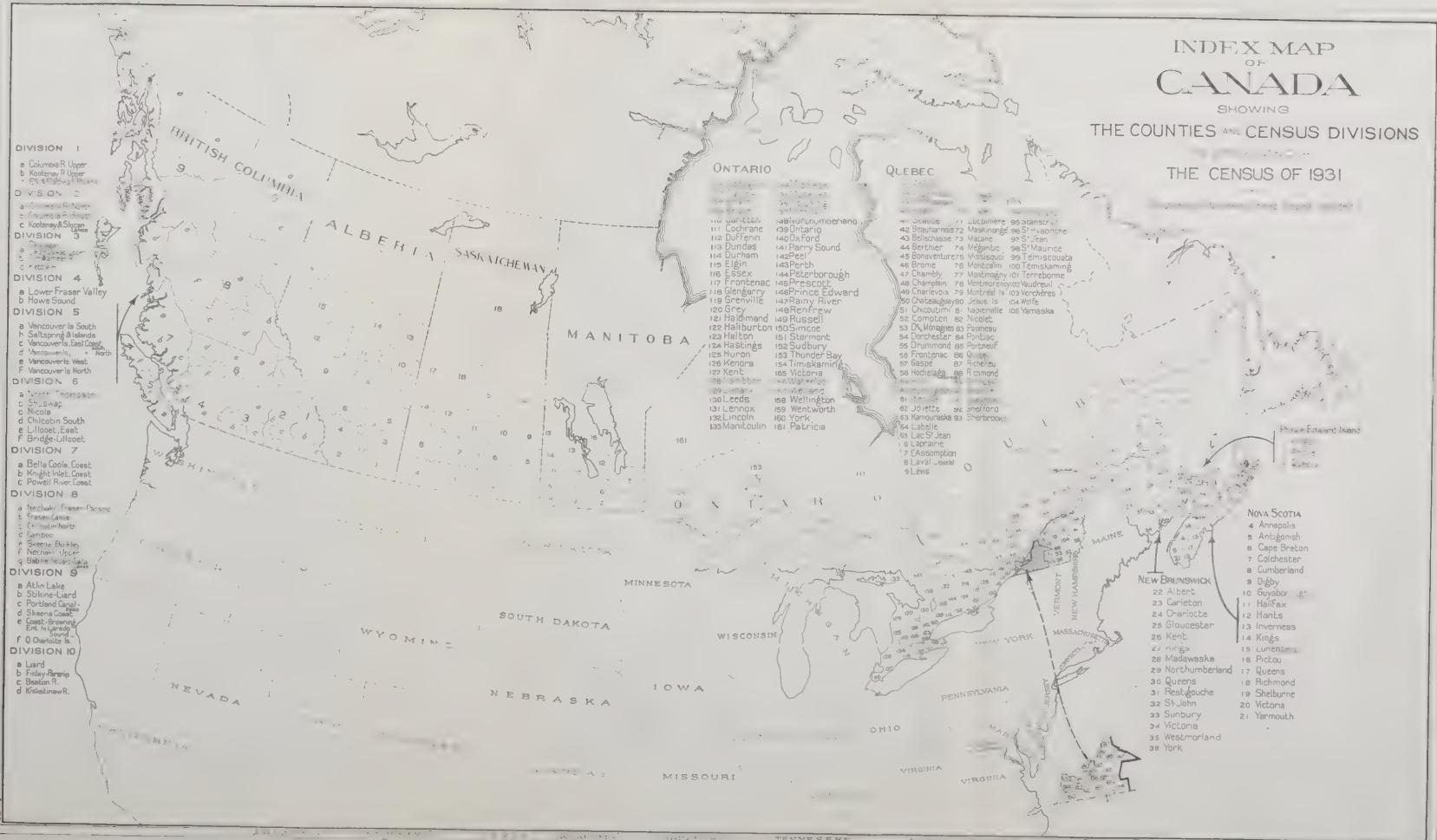
Expectation of Life by Age and Sex, in Specified Countries*

Country	Period	Male						Female					
		At Birth	At 10 Years	At 20 Years	At 30 Years	At 60 Years	At 80 Years	At Birth	At 10 Years	At 20 Years	At 30 Years	At 60 Years	At 80 Years
Germany.....	1932-1934	59.86	57.28	48.16	39.47	15.11	4.84	62.75	59.01	49.77	40.97	16.00	5.15
Austria.....	1930-1933	54.50	54.10	45.20	36.90	14.20	4.60	58.50	57.00	48.00	39.60	15.40	5.00
Belgium.....	1928-1932	56.02	54.88	46.04	37.78	14.53	4.65	59.79	57.25	48.43	40.17	15.93	5.20
Bulgaria.....	1925-1928	45.92	53.75	45.78	38.45	16.45	7.08	46.64	53.20	45.45	38.97	17.18	7.27
Denmark.....	1931-1935	62.00	59.00	49.80	41.00	16.00	5.20	63.80	59.40	50.00	41.20	16.40	5.40
Estonia.....	1932-1934	53.15	52.02	43.68	35.99	14.36	5.04	59.62	58.08	49.75	41.82	17.44	5.92
Finland.....	1931-1935	53.94	51.41	42.99	35.58	14.35	5.73	58.69	55.65	47.40	39.75	16.22	5.62
France.....	1928-1933	54.30	52.06	43.30	35.42	13.76	4.44	59.02	55.95	47.40	39.54	15.94	5.09
Hungary.....	1930-1931	59.77	56.97	47.63	38.70	13.49	2.85	63.74	59.57	50.31	41.46	15.10	3.61
Ireland.....	1925-1932	57.37	55.20	46.40	38.39	15.75	5.81	57.93	54.92	46.36	38.60	16.36	6.47
Italy.....	1930-1932	53.76	55.46	46.75	38.58	15.16	4.85	56.00	57.15	48.49	40.41	16.13	5.18
Latvia.....	1934-1936	55.39	54.19	45.58	37.47	14.73	5.50	60.93	58.80	50.25	42.10	17.73	6.35
Norway.....	1921-1930	60.98	56.27	47.73	40.39	16.97	5.87	63.84	58.35	49.85	42.14	18.16	6.31
Netherlands.....	1931-1935	65.10	60.10	50.90	41.90	16.30	5.30	66.40	60.50	51.10	42.10	16.70	5.60
Poland.....	1931-1932	48.20	52.20	43.70	36.00	13.70	4.60	51.40	54.00	45.70	38.00	15.10	5.00
England and Wales....	1930-1932	58.74	55.79	46.81	38.21	14.43	4.74	62.88	58.87	49.88	41.22	16.50	5.46
Scotland.....	1930-1932	56.00	54.90	46.00	37.40	14.10	4.60	59.50	57.20	48.30	39.80	15.90	5.20
Northern Ireland.....	1925-1927	55.42	54.42	45.63	37.46	14.79	5.43	56.11	53.73	45.22	37.42	15.55	6.25
Sweden.....	1931-1935	63.22	58.37	49.44	41.07	16.59	5.37	65.33	59.49	50.55	42.15	17.29	5.62
Switzerland.....	1929-1932	59.25	54.36	45.36	36.97	13.91	4.58	63.05	57.51	48.46	40.01	15.45	4.92
Czechoslovakia.....	1929-1932	51.92	54.04	45.29	37.15	14.35	4.73	55.18	56.10	47.40	39.24	15.35	5.12
U. S. S. R. (Europe)	1926-1927	41.93	51.65	43.24	35.65	14.85	6.05	46.79	55.72	47.36	39.75	17.07	6.77
R. S. F. S. R.	1926-1927	40.23	50.98	42.48	34.82	14.48	5.87	45.61	55.91	47.48	39.79	17.12	6.75
Ukraine.....	1926-1927	45.42	52.63	44.58	37.25	15.45	6.14	48.83	54.73	46.76	39.34	16.58	6.51
White Russia.....	1926-1927	50.77	54.79	46.22	38.58	16.75	6.93	54.70	57.13	48.61	41.79	18.08	6.61
Egypt.....	1917-1927	....	38.06	32.92	27.80	13.65	6.05	....	41.64	35.77	30.04	14.58	6.45
Union of South Africa ⁽¹⁾	1925-1927	57.78	55.17	46.27	37.87	15.31	5.42	61.48	58.33	49.34	40.77	16.76	5.85
Canada.....	1929-1931	59.32	58.23	49.35	40.76	16.53	5.77	61.59	59.03	50.09	41.61	17.32	6.05
United States: White.....	1929-1931	59.12	54.96	46.02	37.54	14.72	5.26	62.67	57.65	48.52	39.99	16.05	5.63
Negro.....	1929-1931	47.55	44.27	35.95	29.45	13.15	5.42	49.51	45.33	37.22	30.67	14.22	6.90
British India.....	1921-1930	26.91	36.38	29.57	23.60	10.25	3.13	26.56	33.61	27.08	22.30	10.81	3.25
Japan.....	1926-1930	44.82	47.93	40.18	33.43	12.23	4.15	46.54	49.18	42.12	35.98	14.69	4.73
U. S. S. R.: Siberia.....	1926-1927	39.18	53.12	44.86	37.29	16.68	7.32	43.20	56.22	47.98	40.59	18.42	7.55
Australia.....	1932-1934	63.48	58.02	48.81	39.90	15.57	5.22	67.14	61.02	51.67	42.77	17.74	6.01
New Zealand.....	1931	65.04	58.75	49.61	40.78	16.22	5.45	67.88	60.67	51.28	42.45	17.30	5.63

*Vital Statistics—Special Reports, Vol. 9, No. 36, pages 345-461, May 2, 1940.

(1) European population.

MAP A





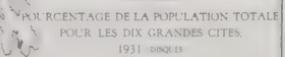
DISTRIBUTION
POPULATION,
CANADA.

1931

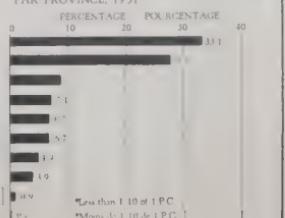
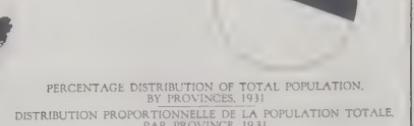
DISTRIBUTION
DE LA
POPULATION.
CANADA.

1931

POURCENTAGE DE LA POPULATION TOTALE
POUR LES DIX GRANDES CITES,
1931 DISQUES



POURCENTAGE DISTRIBUTION OF TOTAL POPULATION,
BY PROVINCES, 1931



NOTE

A dot represents 1,000 people but the population of each of the ten 'Greater Cities' is shown by a disc proportionate in area to the dot, and their populations are additional to the dot distribution. The Greater Cities are repeated below to facilitate comparison.

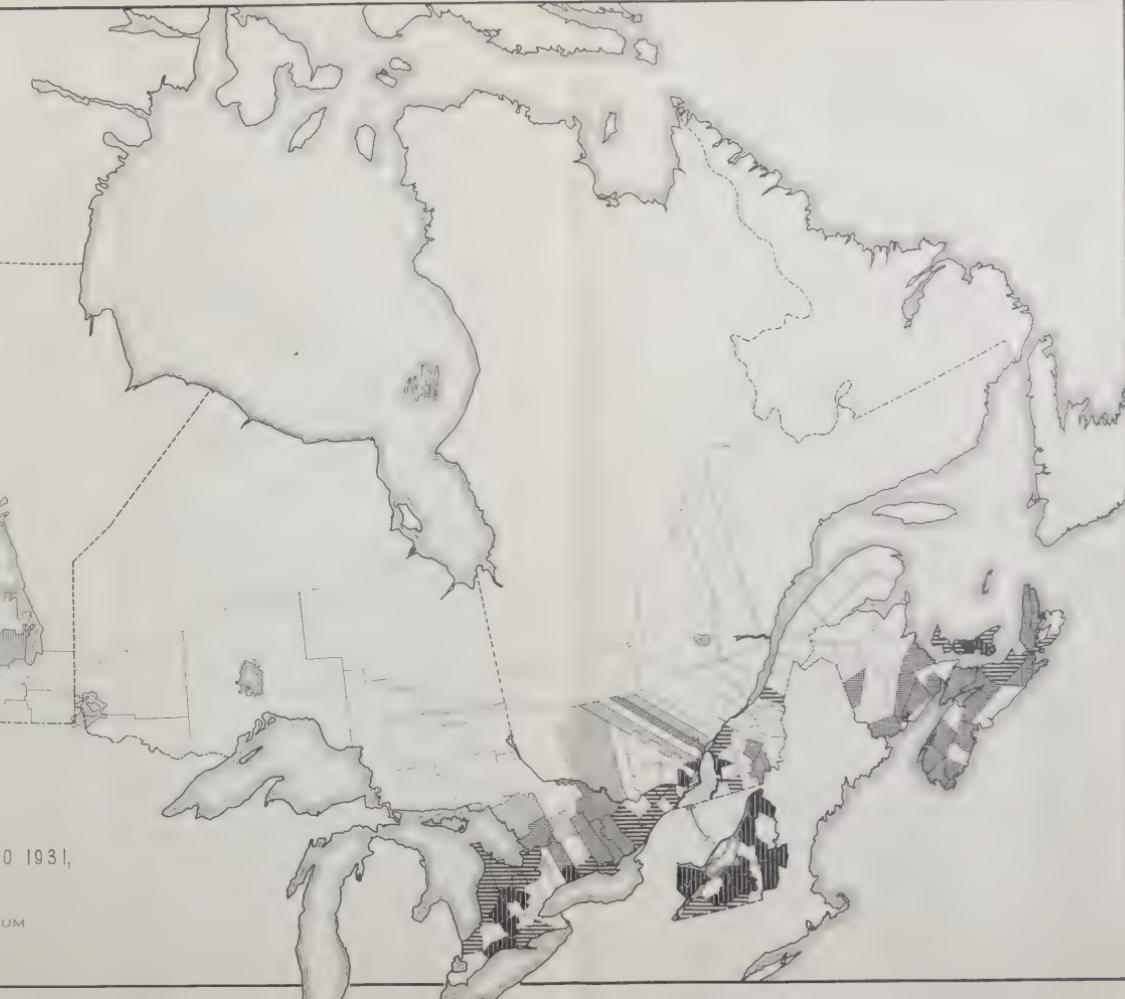
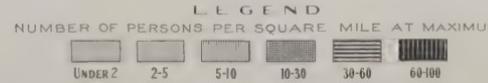
NOTA

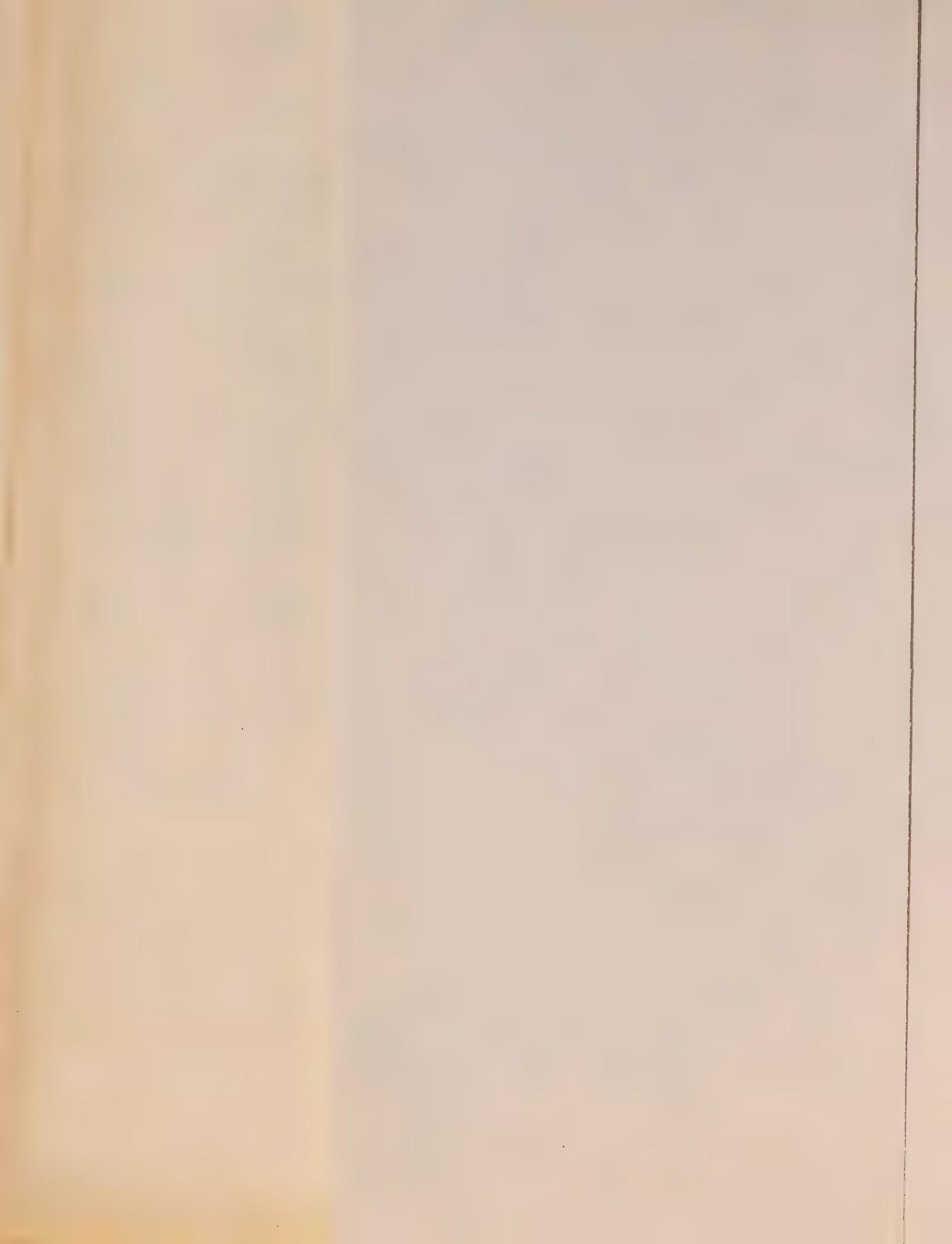
Un point représente 1,000 personnes mais la population de chacune des dix 'Grandes Cités' est indiquée par un disque de surface proportionnée aux points, et leur population s'ajoute à la distribution par points. Les Grandes Cités sont répétées ci-dessous pour faciliter la comparaison.



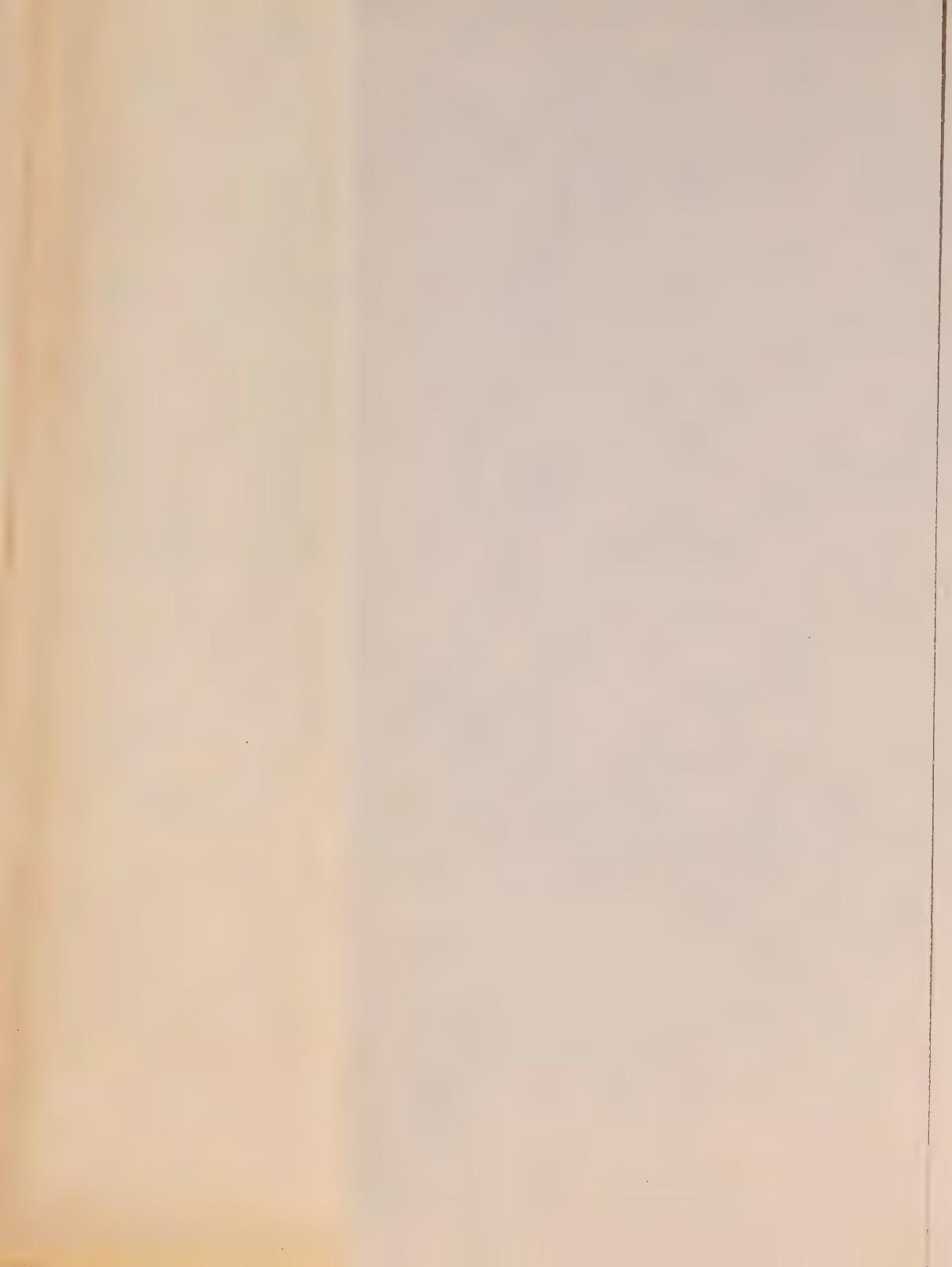
MAP OF CANADA
SHOWING
COUNTIES OR CENSUS DIVISIONS

WHICH HAD REACHED A MAXIMUM POPULATION PRIOR TO 1931,
WITH THEIR DENSITY AT MAXIMUM







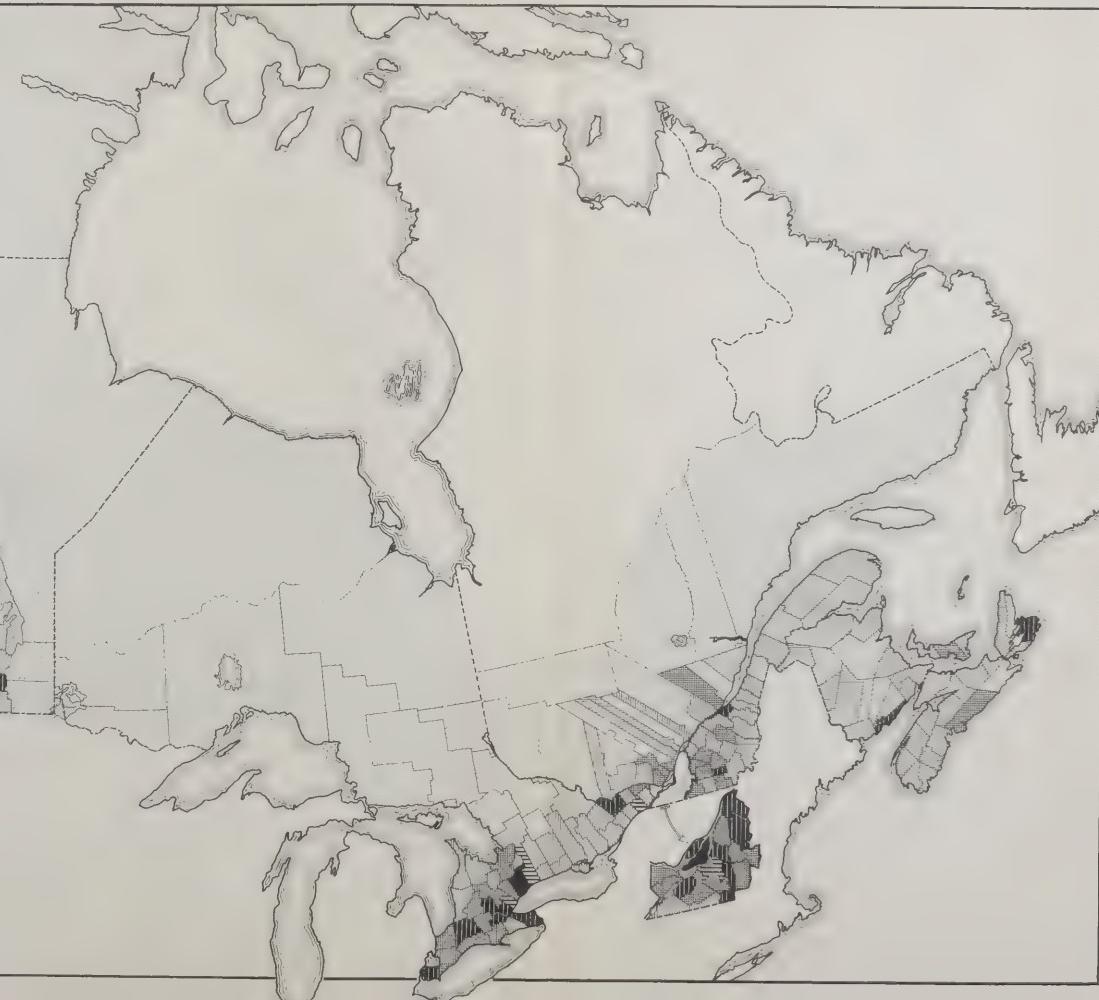
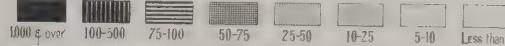


MAP OF CANADA
SHOWING
THE DENSITY OF THE POPULATION
BY COUNTIES OR CENSUS DIVISIONS

1941

LEGEND

PERSONS PER SQUARE MILE





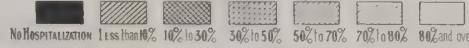
MAP OF CANADA
SHOWING
PERCENTAGE OF HOSPITALIZATION OF LIVE BIRTHS

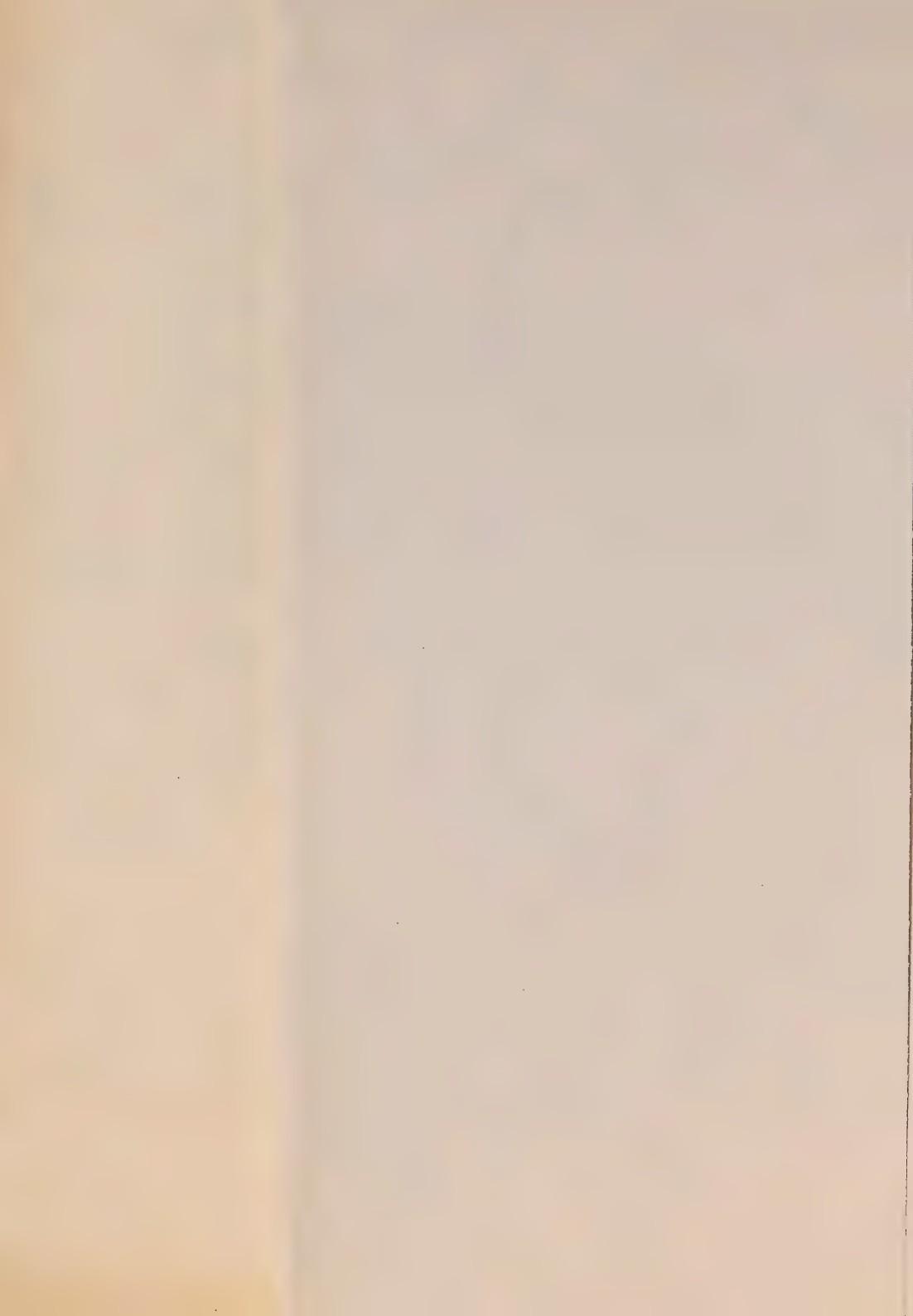
BY PLACE OF OCCURRENCE, BY COUNTIES OR CENSUS DIVISIONS

1940

LEGEND

PERCENTAGE OCCURRING IN HOSPITALS







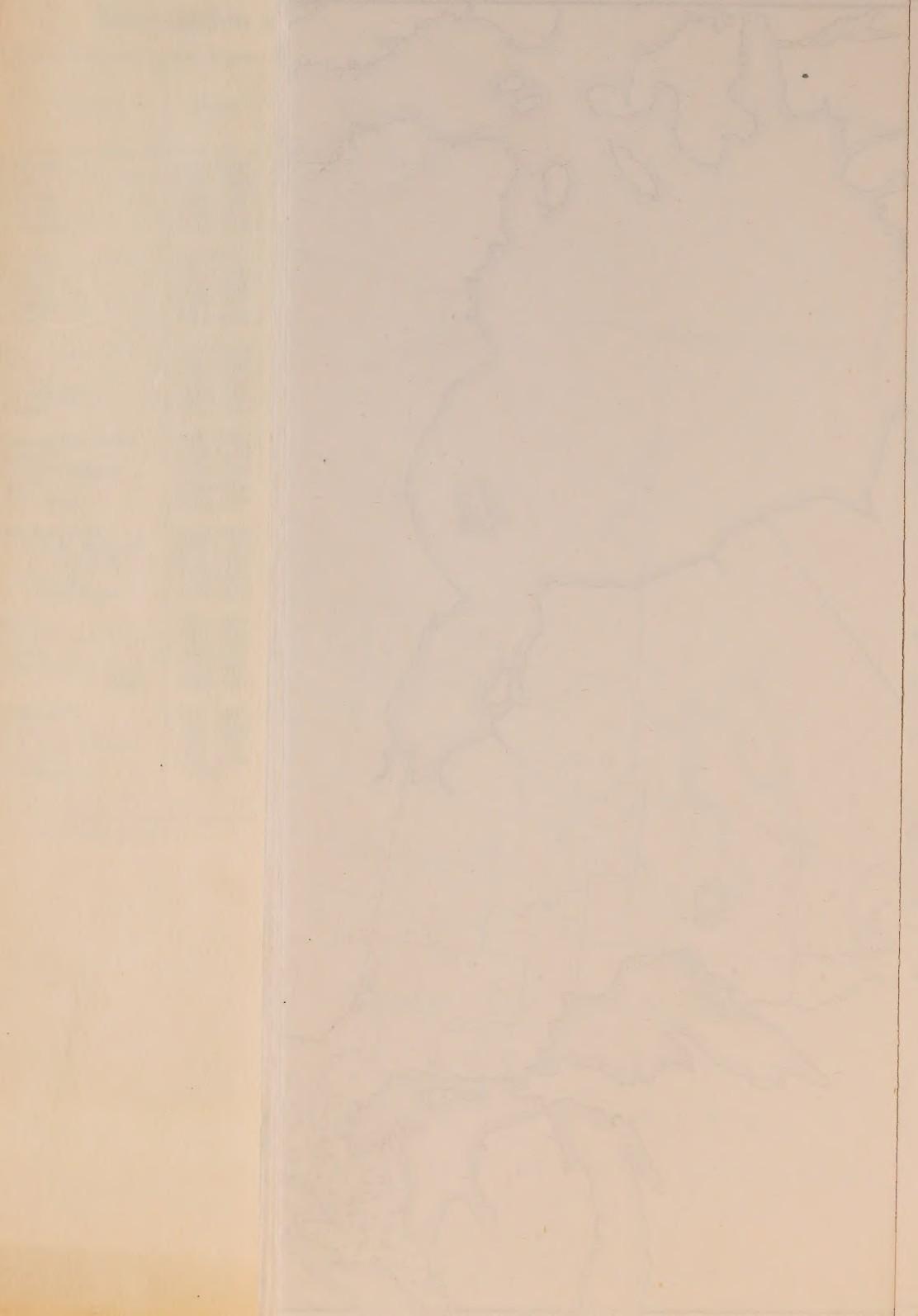


MAP OF CANADA
SHOWING
LOCATION
OF
PUBLIC HOSPITALS
BY
COUNTIES AND CENSUS DIVISIONS

LEGEND

- | | |
|--------------------------------|---|
| Acute Diseases Hospitals | . |
| Mental Hospitals | o |
| Tuberculosis sanatoria | † |







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1943

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